Public Utilities

FORTNIGHTLY

Volume 66 No. 6 September 15, 1960

THE CONSUMER'S REQUIREMENT FOR COMMERCIAL NUCLEAR POWER
By Robert C. Woodbury

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An Answer to the Highway Fiasco
By E. F. Downs

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The Regulatory Commission and the Press
By J. O. Brice

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Developments in Water Desalting

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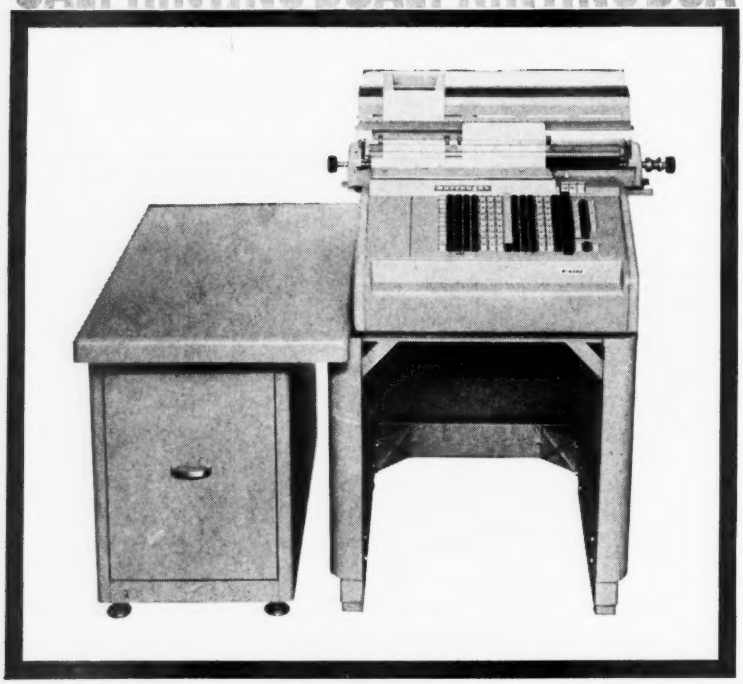

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Public Utilities FORTNIGHTLY

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The author feels that the many projects and plans now being completed or under way by privately owned electric utility companies demonstrate that this nation will sustain its leading rôle in developing nuclear energy.

An Answer to the Highway Fiasco .... *E. F. Downs* 362

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The Regulatory Commission and the Press ..... *J. O. Brice* 379

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Pages with the Editors

THE recurrent conflict resulting from overlapping federal and state jurisdiction is certainly no novelty in the regulatory field. Just as in the case of labor regulation, pure food and drugs, taxation, and a host of other areas, public utility regulation has witnessed a good bit of argument about interstate *versus* intrastate commerce and who has authority to do what.

BUT we never thought that an argument of this kind would ever get to the point of possible criminal prosecution. Yet that is what happened recently in Congress when the House voted a recommendation of its Judiciary Committee that the three top officials of the Port of New York Authority should be cited for contempt of Congress for simply following orders of their own superiors.

THIS controversy centers in that provision of the Constitution which authorizes two or more states to agree to a compact—with congressional permission. Congress gave such permission way back in 1921 to the states of New York and New Jersey to set up a bistate compact under which the Port of New York Authority operates. Now Representative Celler's subcommittee is investigating the

J. O. BRICE

ROBERT C. WOODBURY

operation of the authority and has asked for the records of that agency. The authority has refused to submit certain records which it did not think the Congress had any right to see. Does this make the state officials subject to contempt and possible jail sentences?

IT may be that the United State Supreme Court will be called upon to decide where federal jurisdiction stops and state sovereignty begins in the field controlled by the operation of bistate compacts. With the adoption of the compact authority type of agency being looked upon with more and more favor in situations involving the interests of more than one state, it will be important to get such questions straightened out soon.

PEACEFUL uses of atomic energy and the development of nuclear power plants by electric utility companies and others in collaboration with the Atomic Energy Commission are likely to produce yet another field in which state regulatory interests may have to be clarified. But so far the AEC has managed to go about its complicated work without starting any arguments with state regulatory authorities. Indeed, the AEC to date seems to

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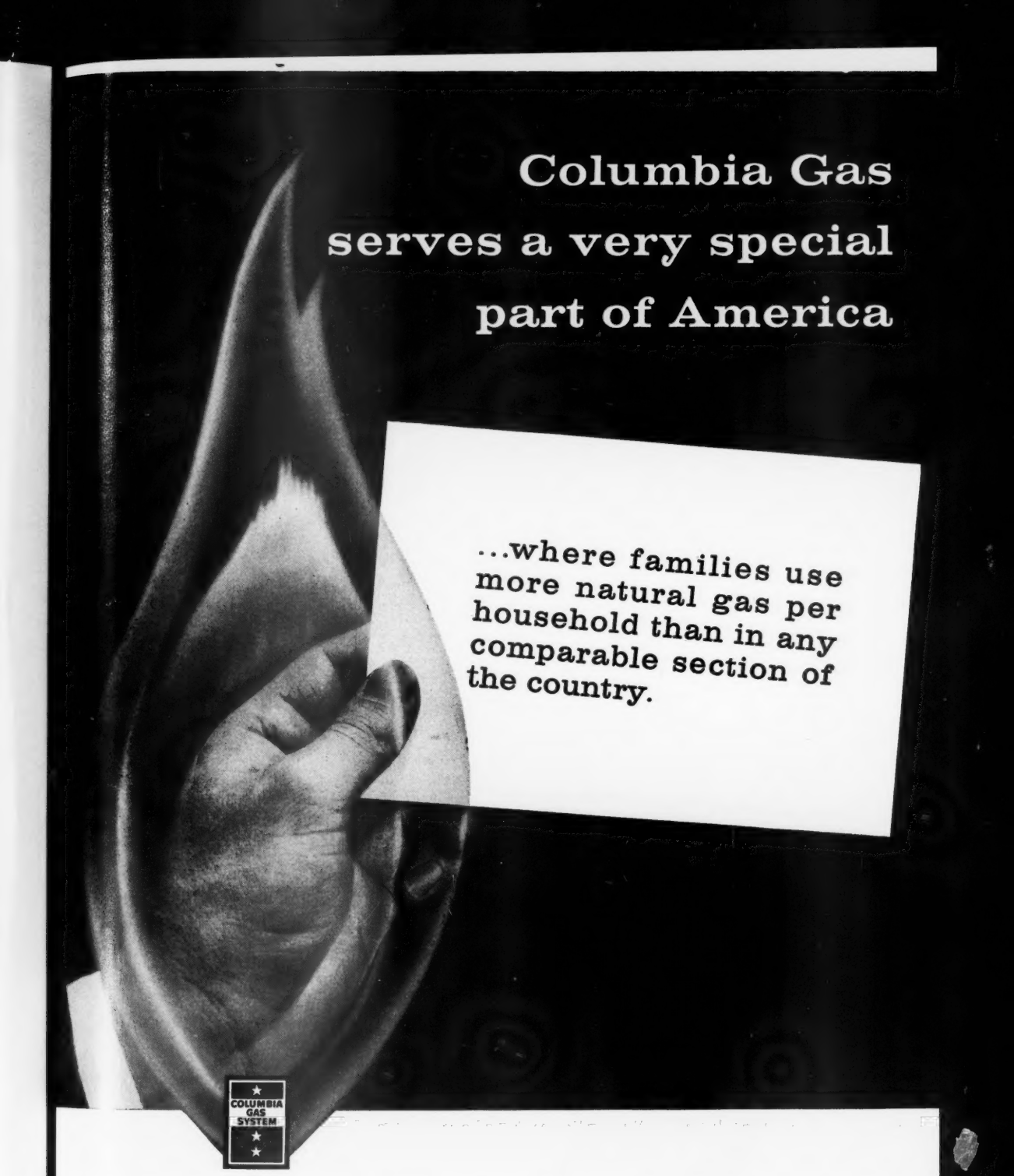

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have taken the lead in seeking the cooperation and assistance of state authorities in the development of such projects.

THE time is not far off, however, when the state commissions will have to take a look at investments being made by regulated electric utility companies in electric generating plants which are not economically competitive. How much can be written off to development and research on a project when the cost of producing power is expected in advance to exceed the cost of producing it by conventional fuel? Aside from regulatory considerations from the standpoint of the ratepayers and utility customers, there is the standpoint of the investors which will have to be considered.

THE opening article in this issue comes to us from ROBERT C. WOODBURY, New York attorney and engineer, formerly associated as an AEC expert with Army nuclear programs. He feels that many projects and plans now being completed or under way by private companies will demonstrate that this nation is not falling behind in developing nuclear energy. MR. WOODBURY is a native of New York state and a graduate engineer of Rensselaer Polytechnic Institute ('50), and a law graduate from Cornell ('53). He has been employed at Oak Ridge and by Stone & Webster Engineering Corporation for the Niagara-Mohawk Power Corporation. He was chief of the gas-cooled reactor program for the Army Reactors Branch, Germantown (1957-59). He is now associated with the New York city law firm of Pennie, Edmonds, Morton, Barrows, and Taylor.

E. F. DOWNS

* * * *

CONTRARY to our usual policy, the editors have accepted a second discussion on public mass transportation within three months, titled "An Answer to the Highway Fiasco" (beginning page 367). The author, a seeming newcomer to these pages, is E. F. DOWNS of Chicago, who contributed a series of thought-provoking studies on transportation economics nearly twenty years ago. Throughout the decades of the New Deal, Fair Deal, etc., MR. DOWNS has adhered to an economic philosophy learned in public utilities; namely, that "outgo less than income equals horse sense; outgo more than income equals nonsense."

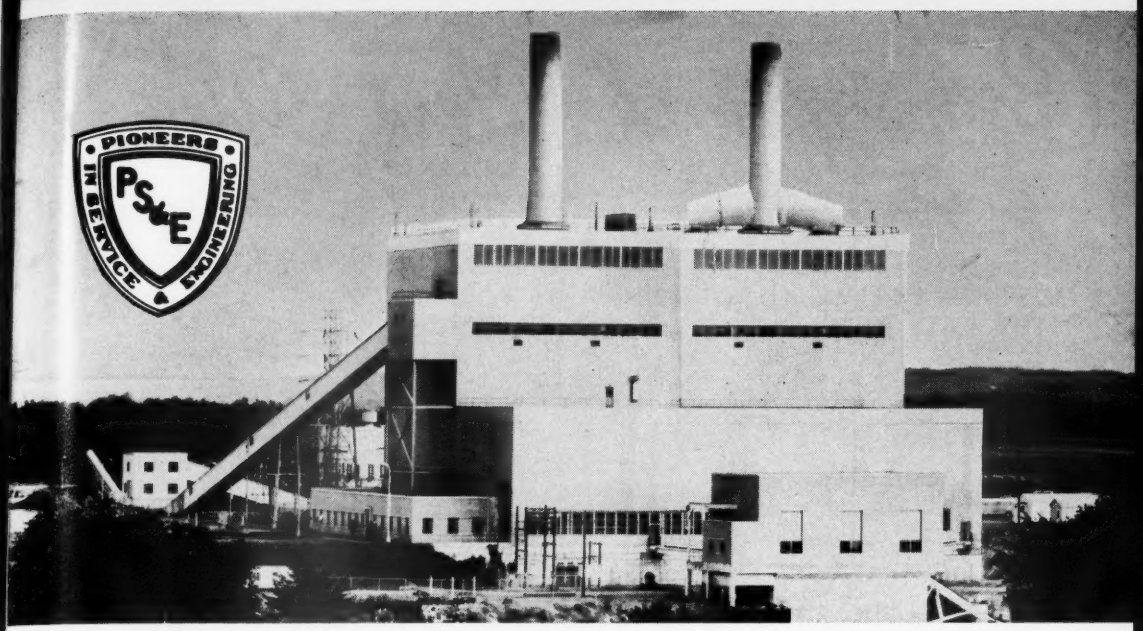
MR. DOWNS' background in design, system planning, and consulting capacities for electric, gas, and transportation utilities furnishes a unique insight to financial problems confronting investor-owned enterprises. Transportation studies made during the many years in which he has been known as engineer-statistician in the Chicago area have earned him the reputation of being one of the best-informed men in the nation on transportation economics.

* * * *

J. O. BRICE, author of the article on "The Regulatory Commission and the Press," beginning on page 379, is the press and informational representative of the public utility commissioner of Oregon. He is a native Oregonian who started with the United Press prior to World War II, in which he was a military pilot. He also has a background of specializing in transportation news magazine articles, mainly covering the western states.

THE next number of this magazine will be out September 29th.

The Editors



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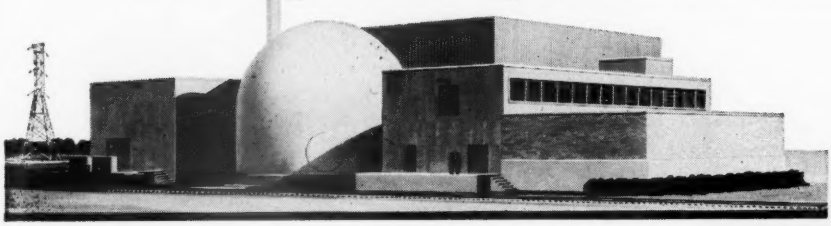

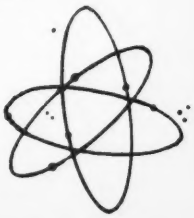

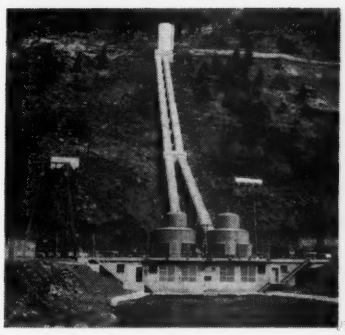

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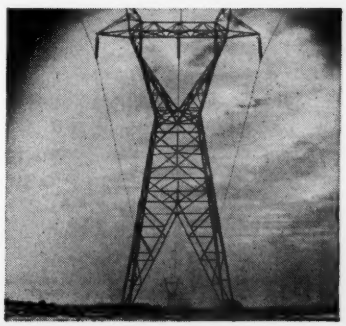

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(SEPTEMBER 29, 1960, ISSUE)

COMMON DOLLAR ACCOUNTING AND THE RATE BASE

Earl A. Spiller, Jr., assistant professor of accounting at Washington University, St. Louis, Missouri, has given some thought to regulatory devices which would permit public utility companies to recover their operating costs in terms of equivalents based on the purchasing power of the present-day dollar. He suggests the use of a "purchasing power rate base" which the regulatory commissions could employ. Dr. Spiller believes that the return on utility investment is inaccurately stated if changes in the value of the dollar unit are ignored.

THE FPC AND INDUSTRY CONTACTS

The 86th Congress has adjourned its second session without action on a number of so-called regulatory reform bills growing out of the investigation and criticisms of federal commissions developed by the House Legislative Oversight Subcommittee. Some of these proposals were pretty far-reaching. A favorite target was the so-called off-the-record contact between commissioners or staff and interested parties or their representatives. Contrary to what was widely argued in the press in connection with these so-called improper contacts, Robert B. Eckles, of the Department of History, Government, and Philosophy at Purdue University, believes that personal contacts are really vital to settling cases wisely and well. He believes that more contacts, not less, are needed to accomplish proper objectives of utility regulation by the commissions.

NEW IDEAS ABOUT ANNUAL REPORTS

Once upon a time the annual report was a perfunctory and often dry statistical summary of a company's financial status and operations. But in recent years it has been recognized that the annual report provides an opportunity for very persuasive communication, not only with the investor for whom it is primarily intended, but with others—employees, consumers, regulatory authorities, and the public at large. In this double-feature article, two different techniques for improving the appeal of the utility company's annual report are discussed. Robert D. Yeomans, secretary of The Washington Water Power Company of Spokane, Washington, tells about various textual improvements which have resulted in winning awards for that company. Willard F. Stanley, financial expert, discusses the "newspaper" annual report—a novel format for such documents.

AND IN ADDITION . . . *Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.*

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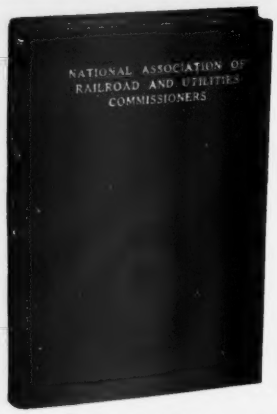

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Utilities Events Calendar

CHECK THESE DATES:

Sept. 15-16 — American Gas Association-Edison Electric Institute will hold joint accounting division and section organization meetings, Pittsburgh, Pa.

Sept. 15-16—Annual Engineering Management Conference will be held, Chicago, Ill.

Sept. 15-16 — Public Utilities Advertising Association, Region 5, will hold annual meeting, Tampa, Fla.

Sept. 15-17—Public Utilities Association of the Virginias will hold annual meeting, White Sulphur Springs, W. Va.

Sept. 18-21—Edison Electric Institute, Meter and Service Committee, will hold meeting, Rye, N. Y.

Sept. 18-21—American Society of Mechanical Engineers will hold petroleum mechanical engineering conference, New Orleans, La.

Sept. 19—Rocky Mountain Gas Association will hold anniversary banquet, Denver, Colo.

Sept. 19-21—Institute of Radio Engineers will hold national symposium on space electronics and telemetry, Washington, D. C.

Sept. 19-21—West Virginia Telephone Association will hold annual convention, Morgantown, W. Va.

Sept. 20-21—American Gas Association, Operating Section, will hold organization meetings, Cleveland, Ohio.

Sept. 20-22—American Society of Association Executives will hold annual meeting, Cleveland, Ohio.

Sept. 21-22—Industrial Electronics Symposium will be held, Cleveland, Ohio.

Sept. 21-22—Pennsylvania Electric Association will hold annual meeting, Pittsburgh, Pa.

Sept. 21-23—Industrial Power and Heating Group will hold meeting, Milwaukee, Wis.

Sept. 21-23 — Inter-Industry Farm Electric Utilization Council will hold annual national electric farm power conference, Louisville, Ky.

Sept. 21-23 — National Power Conference will be held, Philadelphia, Pa.

Sept. 21-23—Nevada Telephone Association will hold annual convention, Ely, Nev.

Sept. 21-23—Pacific Coast Gas Association will hold annual convention, Phoenix, Ariz.

Sept. 21-23—Southeastern Gas Association will hold annual meeting, Raleigh, N. C.

Sept. 22—New England Gas Association will hold safety conference, Boston, Mass.

Sept. 22-23—Missouri Valley Electric Association will hold accounting conference, Kansas City, Mo.

Sept. 23-24—Institute of Radio Engineers will hold annual broadcasting symposium, Washington, D. C.

Sept. 25-28—New England Telephone Association will hold annual convention, Bretton Woods, N. H.

Sept. 26-27—Tennessee Valley Public Power Association, Power Use Section, will hold annual meeting, Nashville, Tenn.

Sept. 26-28—American Management Association will hold personnel conference, New York, N. Y.

Sept. 26-28—Edison Electric Institute, Industrial Relations Committee, will hold annual round-table conference, Chicago, Ill.

Sept. 26-28—International Association of Electrical Inspectors, Eastern Section, will hold meeting, Portsmouth, N. H.

Sept. 26-30—Instrument Society of America will hold fall instrument-automation conference and annual meeting, New York, N. Y.

Sept. 27-29—Mid-West Gas Association will hold gas school and conference, Iowa State College, Ames, Iowa.

Sept. 28—ECAP will hold copy group meeting, New Orleans, La.

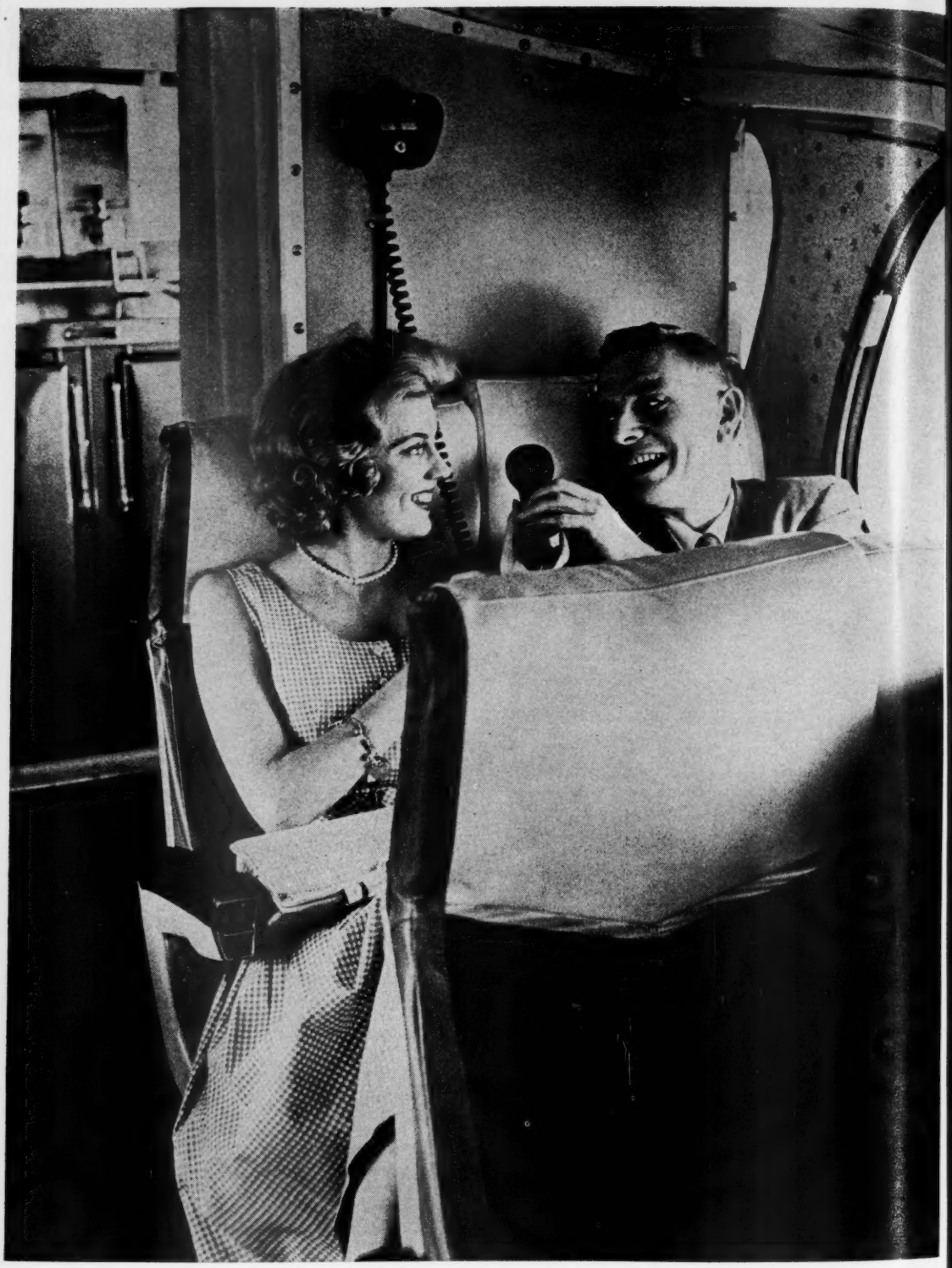
Sept. 28-30 — Indiana Electric Association will hold annual convention, French Lick, Ind.

Sept. 28-30—Northwest Public Power Association, Power Use Section, will hold annual meeting, Longview, Wash.

Sept. 29-30—Electric Companies Public Information Program will hold workshop conference, New Orleans, La.

Sept. 29-30—Southeastern Electric Exchange will hold accounting conference, St. Petersburg, Fla.

Sept. 29-30—Tax Institute Symposium will be held, Chicago, Ill.



Telephone from a Bus, Anyone?

New passenger telephone service has been installed in the East coast luxury liner buses of Trailways Bus Company. Calls may be made from the bus and calls received via radio transmitter and regular lines of the telephone company.

Public Utilities
FORTNIGHTLY

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The Consumer's Requirement for Commercial Nuclear Power

By ROBERT C. WOODBURY*

Our concern for pushing commercial nuclear power seems grossly out of proportion to the facts. Actually we have nuclear power now that is competitive to power costs in many foreign countries. And cost is not important from a defense standpoint. Our reserves of fossil fuels are such that there should be no anxiety that they may run out. Moreover, the many projects and plans now being completed or under way by privately owned electric utility companies demonstrate that our country will sustain its leading rôle in developing nuclear energy. Our government could well place its emphasis somewhere else without fear or risk.

MUST we have commercial nuclear power?[1] Affirmative arguments are based on: Conventional fuel resources are dwindling and preservation of honor in the cold war requires preservation of technological leadership.

We *have* nuclear power. It can be harnessed safely for generation of electric energy. It can also be harnessed "competitively," given proper conditions of time, place, and surrounding circumstance. It is undeniably a great resource and many individuals have given heroic service in its development. Consumer individuals have not, however, been heard to say they prefer buying kilowatts of nuclear origin.

Failure of these latter persons, ourselves, to be heard has resulted in a

*Attorney, New York, New York. For additional personal note, see "Pages with the Editors."

[1] In this article nuclear power is used only with reference to power obtainable from fissile fuels.

default judgment allegedly in our favor to the end that we shall have commercial nuclear power. The purpose of this article is to inquire into whether this judgment is truly favorable.

How Valid Are These Arguments?

IT is argued that *we* must develop commercial nuclear power reactors in order that we shall continue to have adequate electric-generating capacity and in order that mankind will not feel an economic transition when conventional fuel reserves become depleted.[2]

In one notable study,[3] estimates of future population growth and of future increase in demand for power are related to estimates of future availability of conventional fuels for estimating a date when nuclear fuels would necessarily be one of the world's prime energy sources. That date may be as early as from fifteen to forty years away. But, whether one believes that the date will be pushed back by further discovery of economically recoverable fuel reserves or advanced by more rapid increase in demand is scarcely relevant, as will be presently shown.

It is also argued that we must have commercial nuclear power first. That is, we must reduce the cost of nuclear power rapidly before someone else does it.

ON this basis, the historic association of naked nuclear power and national defense has assumed a convincing if not confusing posture in our minds. Because we have been enamored of the international race for military technological leadership, and rightly so, we have permitted Congress and the Atomic Energy Commission to put commercial nuclear power in the van.

Thus, we are racing against the clock, assuming first that the real cost of nuclear electric power can be suitably diminished and second that others will not invent a system whereby presently conceived nuclear as well as conventional power plants will become commercially obsolescent. Neither assumption can be proved correct at this time, although the first probably has a greater foundation in fact.

Private *versus* Public Power Race

BECAUSE of the "sticky wicket" of public power, both the federal government and private industry are caught in this race. On the one hand it is stated that government is the only agency with sufficient interest to pursue the goal diligently and that the expense of reducing nuclear power cost is so great that government is the only agency financially competent to do so. On the other, the utility industry, driven to a defensive position, is forced to say: "Not so! What is more, we can and will do it."

Each is eager to prove to us its ability. A moment's reflection on this point surely indicates there is no real question about the ability of either party.

Also, each is in a position ultimately to place the financial burdens on us through taxes and consumer prices. If there is any duplication along the way we shall pay race expenses twice. At minimum, overhead or fixed charges for each organization will be duplicated. We are at the

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[2] For a general outline of this reasoning see "Atomic Energy Facts" published by the U. S. Atomic Energy Commission, pp. 75 et seq. available from the U. S. Government Printing Office, Washington 25, D. C.

[3] *"Energy in the Future"* by Palmer Putnam; D. van Nostrand Company, 1953.

same time both consumers and voters and we have not had an opportunity to state whether we approve either the expenses or the race itself.

ONE is reminded of Peter Ustinov's recent caricature of a German sea captain who was talking to a captive passenger. After explaining the passenger's status the captain commanded, "Und you vill enchoy it!"

Enjoy it we must at least until the problem is translated for common understanding or until responsible agents conclude this race is not necessary.

We Have Nuclear Power, But . . .

THE first important fact is that we now *have* nuclear power. It has advantages and disadvantages. On balance, for obvious military situations, the disadvantage of *present* cost is overshadowed by the advantage of extended independent operation, or the disadvantage of transporting oil is overcome by the facility with which a few pounds of nuclear fuel elements can be transported. In these situations nuclear power is now competitive. Uranium-fueled power plants can here be substituted for conventionally fueled power plants and some advantage is derived. That advantage may be, for example, unique submarine capability or, in remote locations, less expensive power.

In this frame of reference, nuclear power is not now commercially competitive in this country. This means that our costs for electric energy generated from nuclear fuel would be greater than seven to eight mills per kilowatt-hour. Estimated costs in fact range upward from the vicinity of 10 mills per kilowatt-hour.

Our Ten-year Nuclear Plan

THE U. S. Atomic Energy Commission has recently announced a broad program for obtaining commercial nuclear power within ten years.[4] The goal of this program is to provide several types of nuclear reactors which will be suitable for use in generating power at costs of around seven to eight mills per kilowatt-hour.

Seven different types of nuclear reactors have been chosen for concentrated development in this ten-year program.[5] Among these, the AEC estimates that three,[6] if built today, could be used to provide electric power at costs ranging upwards from 12½ mills per kilowatt-hour. Development funds required to reduce these costs to the commercial 7-8-mill range are estimated to be $623 million.

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[4] A comprehensive summary of this program may be found in *Nucleonics,* Vol. 18, No. 4, April, 1960, pp. 71 et seq.

[5] An eighth, the aqueous homogeneous reactor, will remain as a research project until its technical feasibility is established. Thermonuclear research is not part of this program and is, of course, also continuing.

[6] The sodium-graphite, heavy water, and fast-breeder reactors.

Similarly, two other types,[7] if built today, could provide power at costs of about 9½ mills per kilowatt-hour. Development funds required to reduce these costs to the commercial 7-8-mill range are estimated to be $217 million.

Specifically, development funds required for boiling-water reactors are estimated to be $125 million; for pressurized-water reactors, less.

Total development funds required for the program during the next decade will be in excess of $1 billion. Presumedly by 1970 or before *each* of the seven reactor types will have become commercially competitive in this country.

Will Nuclear Power Leadership Be Ours?

IN the utility industry, then, does this program provide for technological leadership of the world? There can be no doubt about the answer: It does, admirably. No one else is interested in spending this kind of money for developing civilian nuclear power stations. And when we are through seven different plant designs, each one for a station capable of producing electric power at least as inexpensively as present United States fossil-fueled stations, will be available. We shall reach the finish line far ahead of anyone else and years ahead of any time when fossil fuels might become uneconomic.

But, ironically, are we not there now? In many countries of the world, the cost of electric power from conventionally fueled stations is at least 30 per cent higher than the cost in this country. In some countries the difference is as much as a factor of two times greater. For these countries, based on the statistics of the AEC, nuclear power is now commercially competitive. It is worth repeating: We have nuclear power. Our technology is now leading. Expanding federal efforts in the application of this technology in less fortunate countries, rather than in further esoteric development at home, would do more for America in the arena of world opinion.

What about National Defense Angles?

IT is therefore necessary to clarify the question of whether we must pursue the proposed civilian power reactor development program as a purely defense measure. Fortunately, an adequate analysis of this question does not require a discussion of classified information.

Military reactor development programs are very much a part of the national defense effort. Present programs embrace unproven reactor concepts which will not at least for many years have commercial utility. Broadly speaking, these concepts are not closely related to those proposed in the civilian program; they require greater sums of money to develop and are for specialized military power requirements where low cost is not of primary importance.

Pursuit of these advanced concepts for military use is logically and traditionally a matter for government sponsorship. Moreover, much of the pioneering being done on military accounts will eventually redound to our civilian benefit. But in the area of cost the "last turn of the screw" is neither a matter of military interest nor of military responsibility.

[7] The pressurized-water and boiling-water reactors.

THE CONSUMER'S REQUIREMENT FOR COMMERCIAL NUCLEAR POWER

MILITARY reactor development programs have in the past provided proven reactor concepts, some of which now show promise of having domestic commercial utility. Significant among these are the pressurized- and boiling-water concepts mentioned. Adaptation of systems such as these for meeting our civilian requirements is not required for defense.

In addition, such adaptation is not pertinent to the real challenge of technological leadership. To illustrate, consider Polaris. It is a spectacular weapon system. The submarine platforms have amazing nuclear propulsion plants. It is not necessary to enumerate before the world the scientific firsts of which this system is comprised. Polaris itself stands as clear evidence of great achievement, of technological leadership, and we can be proud of it.

Is this not the category of achievement which we really intend when we speak of the impact of technological leadership on world opinion? Who will notice when we are able to say that we can transport Polaris around the world, submerged, four times for the price at which we previously could only do it twice? Of course that too will be evidence of achievement, probably by people who will receive small appreciation for their efforts. But it will, without any deprecation of such future efforts intended, be evidence of devoted stewardship and not leadership.

Costs Can Be Reduced

PROPER expenditure of $100-225 million is adequate, according to the AEC, to reduce civilian nuclear electric power cost to the range of seven to eight mills per kilowatt-hour. For the boiling-water reactor system $125 million is required. For the pressurized-water system the number may be as low as $90 million. The goal for each is a reduction from presently estimated power costs of 23 per cent and 16 per cent, respectively.

Defraying the cost of reducing nuclear power cost is well within the capacity of private money sources.

If any persons remain who are sincerely worried about not having coal or oil, let *them* prepare by providing $125 million and by concentrating on one reactor system. They will assume the risk that their fears are groundless but, if they are right, their rewards will have been earned.

One need not rely on the traditional American free enterprise theories to assert that such an approach is reasonable. It is only necessary to point out that for constructing less proven reactor concepts where risks of failure are greater, substantial private investments have already been made.

Let's Encourage Foreign Nuclear Power

WE have many important subjects for which we must apply our public resources. The present subject is not among them. Yet there is one pertinent area where these large amounts of government support could be profitably channeled. It concerns foreign aid.

It certainly would make little sense to pay underdeveloped countries the difference between our present electric power costs and theirs simply because we were blessed with local fossil fuel deposits and they were not. But we could provide, through the United Nations, greater encouragement and guaranties and even boot money if, for example, a new African state wanted to build a prototype of the most advanced nuclear system to do some prideful pioneering itself.

We could do it with relatively simple reorientation of policy and then no agency in our government would need to feel compelled to build the particular system itself; the nuclear market could be expanded for American suppliers; the results could just as easily be made available to the world and technically we could learn just as much.

Perhaps the grand program would require twenty years rather than ten, but in the process we could create immense good will. What is more, we could thereby side-step the monstrous domestic issue of public power.

What We Should Do

LET us drop the fictions that we must urgently prepare for the day of no conventional fuel and that we must maintain technological leadership with a grand and expensive public plan for commercial nuclear power development. The arguments which have been made to justify our continued federal support for this plan are no longer valid. Government stewardship is continuing only "because we are there."

Let there be no misunderstanding: Many public officials have given heroic service to get us from Hiroshima to the present in nuclear power. It seems plainly evident, however, that if they would remain heroes they must move on to present frontiers and concentrate on other subjects, perhaps space technology, defense, and intelligent diplomacy, where responsible expert leadership in government is still urgently required.

"WE have walked so slowly with our atomic energy program that it is sometimes hard to realize how far we have come in a decade. If we will just take a few more such steps, we may be surprised to find in another decade how much farther we have gone."

—EDITORIAL STATEMENT,
The Wall Street Journal.

An Answer to the Highway Fiasco

By E. F. DOWNS*

Other public utility industries, beside transit companies, have a definite stake in the re-establishment of some competent mass transportation facilities as an alternative to the present growing cost and confusion resulting from the flight of the taxpayers to the suburbs and the infiltration of the tax eaters into the decaying slums of our central city areas. More and bigger highways seem only to intensify traffic tie-ups—they fill up as fast as they are built. Any city with a will to do so can solve its transportation dilemma. And even if limited subsidization is required in some cases, it is vastly superior to a futile highway construction program that only makes matters worse.

THAT cities are sick is obvious from current census returns, and the public belatedly is discovering that the automobile is responsible. Now that middle-class neighborhoods have degenerated into slum status, new opportunities for fees are offered to engineers and architects in urban redevelopment programs which often displace slum dwellers to provide subsidized upper-class housing. A fantastic new street pattern generally is laid out to furnish air, parking, and vegetation in the new puzzle town. Planners deplore the downtown imbroglio produced by the automobile; in the next breath, they espouse downtown redevelopment through the media of wholesale demolition and reconstruction to provide air, vegetation, and parking to encourage everyone to drive to work. All such developments result in forced liquidation of investments for utilities of both the city-owned and investor-owned classes; hence self-interest on the part of utilities demands that they fight to retain existing street patterns in urban areas.

Billions of dollars have been spent to stimulate automobile use up to congested

*Engineer and statistician. Chicago, Illinois. For additional personal note, see "Pages with the Editors."

areas in futile attempts to disprove an axiom published by the writer twenty years ago:

Superhighways cannot be built to serve downtown areas.

THE prescription to cure Harlem and Mott Haven in New York would be poison to Times Square and to Columbus Circle; a layout to alleviate congestion in mid-Victorian downtown areas of small cities would be worse than useless in New York, Chicago, or Philadelphia. Seemingly, many planners have not grasped this fundamental or carried their analyses to an ultimate conclusion; an occasional reference to rapid transit is given grudgingly, often manifesting the same naïvete by which the never-ending federal highway expense is flattered by the euphemism "investment."

Private *versus* Public Financing

ANY enterprise where the management is accountable to stockholders tends to utilize capital efficiently, but this concept may be overlooked in making disbursements from the federal Treasury. Taxpayers have been lulled by the siren song of "something for nothing" since early New Deal days and present-day political leaders cannot recognize an expense; they delight to allege a need for federal "investment" in transportation. Capacity factor is a convenient method of measuring utilization efficiency of capital, being defined as units produced, divided by capacity for production, both in the same time intervals; load factor is a related concept but is not the same arithmetically. Reference to a few diverse industries should be illuminating. (See table below.)

In this connection, the nineteenth century witnessed the only investments in transportation ever made by the United States; land grants to railroads ultimately reaped a six- or sevenfold return. All other federal dabbling in transportation has been and continues as an expense, whether for airways, highways, or waterways.

Some Interesting Comparisons

THE above unflattering comparison between mass transportation and highways tells only a small part of the story. To convey an equal number of passengers at the same speed with reasonable safety, 18 superhighway lanes would be required to equal two rapid transit tracks. Rapid transit investment broadens the tax base while superhighways wipe out taxable property, and the former works at twenty times the efficiency of money spent on highways. Furthermore, urban traffic problems never are solved by road building, which simply moves congestion to one or more different locations. Mass

Industry	*Type of Financing*	*Per Cent Efficiency in Use Of Capital*
Gas and Oil Transmission	Private	Over 80
Electrical Generation	Private	50-60
Railroad	Private	20-30
Rapid Transit	Public	20-25
Highways and Streets	Public	Under 12

transportation can solve traffic problems while superhighways cannot, hence it should be obvious that the sole hope for cities is to be found in rebirth of mass transportation systems.

Cities as we know them have evolved during the past 200 years, partly as a result of the Industrial Revolution. Transportation within cities is of more recent origin during the past century, while decentralization is contemporaneous with the automobile. Congestion occasioned by automobile use in urban areas is a major curse of the twentieth century, and is a major contributor to decay of neighborhoods. In downtown areas today, only 15 per cent of the automobiles in parking lots have any daytime use; the rest are cocooned from nine until five, emerging to confound confusion. Such vehicles already are a greater nuisance than pigeons and the inevitable result of superhighway construction is to double the number of vehicles on downtown streets which are inadequate for present volumes; parking lots are a temporary expedient, for today's vacant lot is the site of tomorrow's skyscraper.

Planning a Rare Bird

To the writer's knowledge, only one American city has shown policy in planning during the past twenty years. Toronto concluded in 1953 that there are four vital metropolitan services:

1. Water Supply
2. Sewage Disposal
3. Arterial Highways
4. Education

By 1955, the conclusion had been reached that a fifth item is necessary:

5. A transit (transportation) system with a reasonable fare.

However, such wisdom is not attainable south of Canada where the most honored god continues to be the Chrome Plate Calf whose religion is the Opiate of the People. For fifty years, city families have sought Utopia by moving to "a suburb 15 or 20 miles from congestion." Congestion has caught up with them by the time that the mortgage is paid off, so the next generation recedes another 15 or 20 miles to start the cycle over again. One keen observer describes suburbia as "a location where children can be plagued by all the disadvantages of city and of country, while not having the advantages of either," and unless current trends are reversed forcibly a man will spend more time driving to and from work a generation hence than will be spent on the job.

Birth of a Monster

Had Euclid been able to visualize a superhighway, he might have defined it as "a curving line connecting two points of maximum congestion." This situation did not just happen; it was carefully planned, but may have gotten

out of hand like Frankenstein's monster. Saturation in automobile ownership was imminent in 1930, whereupon forced feeding was undertaken, together with concurrent systematic destruction of mass transportation systems.

The first superhighway promotion was offered as a cure for depression, the aim being to build three routes from ocean to ocean and four from Canada to Mexico. Next came the 1939 promotion by Bureau of Public Roads Commissioner MacDonald. He desired to double the then national debt in order to attempt the impossible task of "building superhighways into and through the heart of the city" to bolster lagging automobile sales.

Then, in the fullness of time, an executive was found willing to ram down the throat of Congress a bill far more pernicious than those which earlier had been unpalatable to so-called spendthrift Democrats. Within four years of its passage it had caused unprecedented examples of graft and waste, described to Congress as follows:

> Before the nation gets its superhighway network, Teapot Dome may look like a child's game of marbles.

The chief proponent is not sure that the job can be done for $280 billion, hence once more we are invited to double the national debt to sell automobiles.

THE federal government is expected to supply about a half-billion dollars to Chicago for the next binge in the endless superhighway spree. Concurrently, $91 million has been requested from the same supposedly inexhaustible source to provide rapid transit so that the highways will not bring all traffic to a standstill. The profession of engineering generally makes a virtual religion of efficiency; the outstanding black sheep is the highway engineer who strives to obtain the minimum economic good in return for the maximum expenditure.

A number of recent discussions on transportation indicate that everyone is anxious to do something but no one has the least idea where to start, least of all to describe the federal highway program as a monstrous confidence game begotten by automobile manufacturers. Since urban use of automobiles creates problems to which no solution is possible, another approach obviously is necessary.

Large City Transit Problems

TRANSPORTATION of passengers in the larger cities presents problems which may be compared to those of supplying electricity, gas, and water. Transmission of large volumes for long distances is only a part of the task, but it can be handled effectively and economically by rapid transit, or by class I railroad commuter services in a few fortunate cities. In utilities, distribution systems account for a large portion of the total investment; distribution of passengers is possible by rapid transit or by railroad in some instances, delivery being near the passengers' desired destinations.

However, no way can be devised to move automobiles expeditiously to passengers' diverse goals, though the federal Treasury be bankrupted in the attempt.

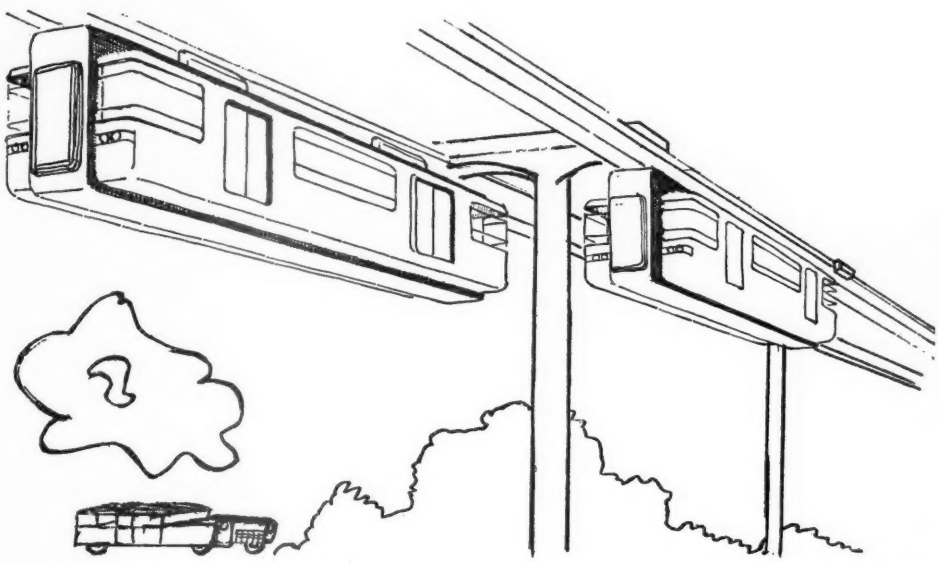
Subway Compared with Monorail

IT has been recognized for many years that a rapid transit subway never can

be justified on fully economic grounds. Aesthetic considerations have prompted the construction in New York of many miles of subsidized subway where the operation could be profitable on elevated railways. Current estimates indicate a cost of $15 million per mile for a two-track rapid transit subway; in many locations, the cost would exceed $20 million.

It is estimated that a two-track rapid transit elevated system with columns on both sides of the street would cost over $6 million per mile; its important disadvantages include the shutting out of light and its objectionable noise. On the basis of a tentative monorail design, a total structural cost of about $2 million per mile should be adequate. Cost of the complete monorail structure is estimated herein at $2.5 million per mile to include electrical distribution and station platforms. Since the first cost of conventional rapid transit proves to be prohibitive for potential load density in most cases, a study was undertaken looking to monorail rapid transit as a back-bone system for transporting large passenger volumes efficiently and speedily for distances in excess of six miles.

The monorail was born in Germany in 1901, depending on the technology then available. The design could not be followed today because of excessive capital cost, but soundness of the principle has been demonstrated. In nearly sixty years of operation, only one fatality has been reported; a baby elephant became panicky during the ride and departed via the front door. Of late, a number of largely experimental models of rubber-tired, hydrocarbon-fueled monorail systems, have been reported both in the United States and in Europe. It should be noted that the combination of rubber



tires and gasoline generally is not conducive to economic health of a carrier.

A number of significant differences will be found between the monorail system proposed herein and other developments. The original Wuppertal installation uses a double-flanged conventional type wheel riding on top of a T-rail section. Other proposals contemplate the use of concrete beams or aluminum cylindrical tracks, with suspended or overrunning cars. Rubber tires are general in most such applications. The following proposal utilizes quiet wheels running on lower flanges of wide-flange beams, expansion joints being spaced not over 80 feet apart. Crossovers will be provided at ends of the line and at other strategic points, a satisfactory solution to this thorny problem having been found. Service facilities are planned at ground level. This monorail shows promise for any city in the 250,000 or over population class, of which there are more than forty in the United States. Analysis made of 26 such cities chosen at random shows that population density in 20 exceeds the 6,000 per square mile requirement set forth below.

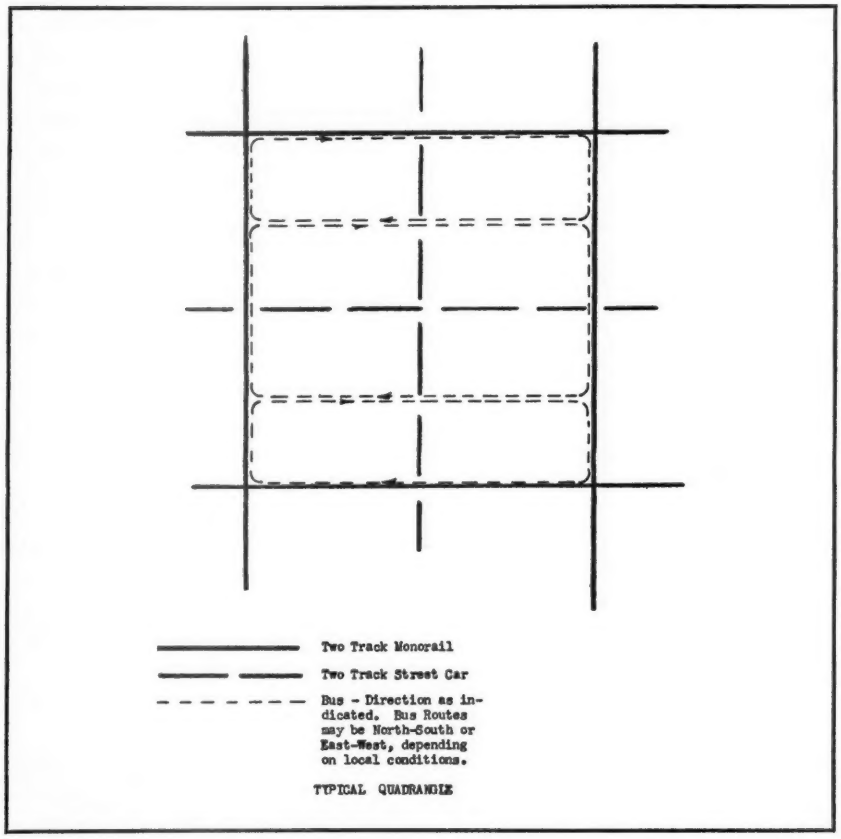
THE number of tracks on any route is of prime importance since success or failure of an enterprise can hinge on the amount of capital invested. The first subways built in Manhattan Island, New York, used two local tracks to distribute passengers after they had been carried long distances speedily on the two express tracks. In other cities, the need for four tracks seldom can be demonstrated.

In an effort to achieve a compromise between high-speed transport of long-haul passengers and a good quality of distribution service at the ends, a fully coordinated system is contemplated. Station stops on the monorail will be spaced two miles apart, at crossings of other monorail routes and at points midway between the quadrangle boundaries. With this station spacing and with a crest speed of approximately 50 miles per hour, an average speed of 30 can be attained. Should it prove feasible to operate at a top speed of 60 miles per hour, the average speed would be 36. To talk of higher crest speeds with diminishing returns is to manifest ignorance.

Hypothetical System Had to Be Used

IT should be obvious that no actual mass transportation system or city could be used for the purposes of this study because any tangible recommendation for routing must be based on travel patterns; these can be obtained only through a complete check of passengers' origins and destinations. Even in a medium-sized city, such a survey would cost over $100,000; therefore, a hypothetical quadrangle of 16 square miles, four miles on a side, was selected in an assumed city. Travel distance of ten miles from the home quadrangle to the employment quadrangle was used in the calculations; this is more than adequate for cities of under one-half million population and should suffice for some cities of over one million. The quadrangle shown is the one in which employment is found, and a similar pattern should be the objective in the home location. (See illustration, page 373.)

The sketch is based on Chicago, but it should be generally adaptable. For exceptionally high population density, it might develop that the quadrangle should be two miles on a side or that a rectangle two miles wide and four miles long would be


Two Track Monorail
Two Track Street Car
Bus - Direction as indicated. Bus Routes may be North-South or East-West, depending on local conditions.
TYPICAL QUADRANDLE

feasible. In such case, some reduction in the number of station stops could be made with shortened running time.

An average population of 6,000 persons per square mile is reasonable for most cities in the half-million or less population class, down to a lower size limit of one-quarter million, and for many metropolitan area suburbs. A family group of four persons was used in the calculations, of whom 1.5 were taken as wage earners; 80 per cent of workers were claimed for public mass transportation since 15 to 20 per cent of workers require the automobile for transportation in the course of the day's work.

The morning and evening rush periods were assumed to be ninety minutes each in length, in which time the entire 80 per cent of total workers was transported a distance of ten miles and delivered to destinations in the area of employment. Optimism on the number of potential passengers is based on the belief that people do not "love to drive," claims by automobile promoters notwithstanding. Most people have enough sense not to risk life

and limb in driving for forty minutes when the same trip can be made safely in thirty minutes by mass transportation.

AMONG the structural considerations, a tentative design first was made for the running rails, then it was determined that prestressed concrete single legs in the center of a street would be adequate for loads of two tracks. The cost of wood piling under each of the legs has been provided to afford adequate bearing and to prevent overturning, even though this refinement would be necessary only under adverse soil conditions. The fundamental design was based on the Chicago and suburban gridiron street layout where the standard block is 660 feet in length. Span length is calculated at 66 feet which is subject to some increase; hence with minor modifications the design is adaptable to any street layout, even the radial and circumferential streets of Washington and Boston.

Tangent track between stations will require only the single leg supports which must be protected from street traffic by continuous curbs. Stations will require columns on both sides of the street, using the minimum of superstructure consistent with the service, platforms being 18-20 feet above the street for single level. Where routes cross a double-level station structure is required, with escalators to reach the upper level, about 15 feet higher than the first.

A READY-MADE car is available for monorail operation, following basic designs of the Presidents Conference Committee Car (PCC). It was designed for optimum acceleration, braking, and operating cost, heat being salvaged from regeneration in braking. Assurances have been obtained from a manufacturer that the car is adaptable to train use and that there is no great difficulty in building it for suspended instead of track operation. Such cars are available in quantity at a cost of about $40,000 each and an additional $5,000 per car is shown in the estimate to provide a foolproof fail-safe system of signaling.

While radar never has been used for railway signals, it seems to have some merit in this application where an accident is unthinkable and sectionalizing of the running rail is precluded.

What about Surface Traffic?

FOR surface routes, the use of both streetcars and buses is recommended. Wherever traffic density justifies it, the PCC car should be used along center lines of the quadrangle, furnishing all-day service; such a car should cost about $35,000. Buses are planned essentially as a peak-period, pick-up and delivery service for short distances. Since comfort in a bus is unattainable and frills do not improve the riding quality, an austerity model is estimated at a cost of $20,000. Maximum use is proposed for electric traction which never has had a competitor on economic grounds. Price comparisons of operating costs, including both repairs and fuel, show that the bus cost is twice that of a streetcar while the capability for handling passengers is not half as much. Furthermore, the bus is completely worn out in ten years or less, while streetcars are not worn out by thirty or even forty years of service.

To cite one specific instance: Electric

traction between Washington Heights on Manhattan and northern New Jersey points should make a nice profit at fares 50 to 60 per cent of the bus fares, since it would no longer be necessary to buy a new vehicle out of the fare box every seven years. In addition, capacity factor could be materially increased by furnishing a quality of service to attract others than the "necessity riders." Hydrocarbon fuels and rubber tires are speculative commodities subject to violent price fluctuations; their use in mass transportation frequently results in financial difficulties for the operating company, as Chicago has learned to its regret.

For purposes of this study, division of passengers among the various types of vehicles was determined on the average passenger per square mile basis within a one-half mile zone of influence, and from this the required number of vehicles was derived to handle rush-hour traffic. All passengers have been carried by monorail after being collected by the other media. For a year of 50 five-day weeks, the 80 per cent of workers in one quadrangle would produce 14.4 million rides. On the basis of these figures, an economic study was made to determine the required number of vehicles and the operating man-hour requirements. (See table below.)

Crossovers, running rail expansion joints, and electrical systems are details which have been studied and satisfactory solutions found, though they are not described herein.

With car requirements known, a total investment cost may be derived:

CAPITAL REQUIREMENTS
(Quadrangle)

8 Miles Monorail	$20,000,000
8 Miles Surface Tracks ..	800,000
183 Buses	3,600,000
55 Streetcars	1,925,000
48 Monorail Cars	2,160,000
	$28,545,000

The development of operating costs was based on past operations, using the following figures:

Fixed charges on the capital at the rate of 10 per cent per annum have been taken, this being the sum of 5 per cent for interest and 5 per cent for depreciation.

Track maintenance costs per mile were based on Chicago results for 1935 which included paving. Paving, if used between rails, should not be chargeable to a public transportation operation, but instead should be a responsibility of the city at large. Therefore, after making this deduc-

Vehicle	*Passengers*	*Passenger Capacity*	*Leads in Rush Period*	*Passengers Per Vehicle in 90 Minutes*	*Number of Vehicles*
Walk	4,248	—	—	—	—
Bus	14,478	40	4.05	162	183
Streetcar	9,774	80	4.5	360	55*
Monorail	28,800	200	3.0	600	48

*Streetcar requirements at destination doubled to provide pick-up at origin.

Capital requirements were derived as follows:

STRUCTURE COST PER MILE

Item	*Unit Cost*	*Cost*
80 Single-leg Structures	$15,000	$1,200,000
1,056 Tons of Steel in Place	400	422,400
Stations and Electrical System		877,600
		$2,500,000

tion the resulting figure was multiplied by three to trend it up to date, the same figure per single-track mile being used for monorail and streetcar. Forty-five hundred dollars per single track-mile was used for 32 miles of streetcar and monorail trackage, or $144,000.

Power cost figures for electric traction and fuel cost figures for gasoline buses were taken from the operating records of the present Chicago operating company and applied to the car miles applicable to this study. The cost of car maintenance per mile was taken from operating records in Chicago for the year 1935 when buses had made no appreciable impact on the transportation picture. This figure then was multiplied by three to bring it up to date, and is used for electrically powered cars. The figure for buses is estimated at twice the amount for cars, on the basis of current figures. (See table below.)

Annual wages of operating personnel are derived, as shown in table on page 377.

The total time of rush periods is three hours. However, in view of the inefficiency of split-shift operation, four hours per day have been charged, it being assumed that most full-time employees would fill out the eight-hour day in off-peak periods. Using four hours per day for 250 days, at a labor rate of $2.25 per hour, gives an annual operating labor cost for peak periods of $735,750.

TWENTY-FIVE per cent of wages were taken for supervision and management and an arbitrary figure of $100,000 per year is assumed as rent of facilities necessary in a quadrangle:

Operating Costs—Rush Hours

Fixed Charges	$2,854,500
Track Maintenance	144,000
Operating Cost	514,000
Wages	735,750
Supervision	183,938
Rent	100,000
	$4,532,188

By dividing the total number of worker rides into operating costs, a required fare of 32 cents results, which should be compared to the 35-cent fare requirement for Los Angeles developed about four years ago.

In other years, some companies sold 300 rides per capita per annum (riding habit 300). A mass transportation agency offering good service, attractive facilities, and a reasonable fare should be able to attract many off-peak riders at a liberal margin of profit. Coincidentally, restoration of a 300 riding habit would double the number of rides set forth for workers only.

INASMUCH as earlier tabulations absorbed all fixed charges in the fares of workers, any incremental off-peak revenues are in the nature of "velvet." Furnishing of all-day and "owl" service would require certain additions to operating costs.

Vehicle	*Mileage in 90 Minutes*	*Operating Cost Per Mile*	*Operating Cost Rush Period*	*Annual Operating Costs*
Bus	2,471	$ .25	$618	$309,000
Streetcar	990	.13	129	64,500
Monorail	2,160	.13	281	140,500
				$514,000

Vehicle	*Number of Vehicles*	*Employees Per Vehicle*	*Total Personnel*
Bus	183	1	183
Streetcar	55	2	110
Monorail	48		
Six-car Trains		2	16
Ticket Takers			18
			327

Operating Costs—24-hour Basis	
Rush Hours	$4,532,188
Day and Evening	725,150
"Owl" Service	33,255
	$5,290,593

By dividing 28.8 million rides, corresponding to riding habit 300, into the above total, a required fare of about 18 cents results. Hence, it appears that a fare between 20 and 25 cents should pay the bills even if riding habit falls short of 300.

Rapid Mass Transit Can Stop Highway Fantasia

ADEQUATE mass transportation can wipe out whatever small need there appears to be for urban superhighways which transfer congestion from the boon docks to a point one-half to one mile away from desired destinations, remoteness depending on physical dimensions of the downtown area.

The conclusion seems plausible that any city with a will to solve its problems should be able to build and support a rapid transit system. Limited amounts of capital subsidy may be needed in some instances, but the ever-increasing tribute for highway building can be wiped out.

Public aid to highways exceeded the total of user payments by over $1 billion per year for many years and doubled during World War II. The Bureau of Public Roads alone used up $6.5 billion after a modest start with $600 million in 1917. Now with no tangible accomplishment to show for the billions wasted in forty years, this bureau eagerly continues a spending spree which its head says may cost $280 billion—or infinity. That this parasite has no interest in the public welfare is demonstrated by its suppression of 1953 findings on mass transportation's superiority for over three years. Now that we are hooked with never-ending highway expense, BPR thinks that we should ride a bus. A federal highway agency to co-ordinate state's plans could be of real value but federal financing of a nonfederal project is inexcusable.

EXAMPLES of graft and apparent malfeasance continue to multiply, proving that the entire program is an indefensible prodigality. Presentations showing futility of federal support to the so-called interstate system are appearing in an increasing number of publications which heretofore had been acquiescent.

Cities can solve traffic and many related problems for all time by re-establishing competent and attractive systems of mass public transportation. The highway lobby must be overcome, since it alone is responsible for urban traffic confusion which becomes progressively worse. Only then will there be an end to halfhearted, half-witted urban highway designs which succeed only in magnifying congestion, and giving rise to the bitter jest that

"Highway engineers deserve no praise, but only the intercession: 'Father, forgive them, for they know not what they do.'"

Risk, Change, and Grow!

"THE essential quality of a dynamic economy is change—constructive change. And change also is of the very essence of enterprise.

"The most dramatic instances of change in our economic history are associated with great innovations such as the development of the railroads, the **growth** of the automobile and **electric power industries,** and more recently the expansion of the chemical, air transport, and electronics industries. Such innovations have opened up almost unbelievable opportunities for investment, employment, economic growth, and the improvement of our living standard. They were made possible by the individual efforts of many enterprisers.

"Equally important, although less dramatic, are the almost daily changes made in products, in manufacturing processes, and in distribution methods. In the aggregate, these constitute a continuing and vital force in assuring growth.

"But why is change characteristic of America? In my opinion, it is a direct result of the way we have organized ourselves to carry on the business of living. Our free enterprise system encourages and rewards enterprising people—people who are not content to remain static but who initiate innovation and worth-while change.

"At the heart of this free enterprise system are two powerful forces—the hope of profit and the discipline of competitive markets. **The hope of profit** is the **mainspring of constructive change.** Competition is the spur that transforms new ideas into new products at the lowest possible price. Whether the first step in a series of changes is big or little, the pressure of competition results in the rapid spread of the changes to other firms, thus opening up additional areas of investment opportunity and creating more jobs."

—FREDERIC G. DONNER,
Chairman of the board, General Motors Corporation.

The Regulatory Commission and the Press

By J. O. BRICE*

Regulatory commissions need good press relations just as do utility companies regulated by them. Commissions are a good source of news of vital interest to the public. The public information representative is the vital link in the chain of communications. How well he tells the commission story to the various media depends to a great degree on his caliber as well as the co-operation of the commission itself. Here is a meaty, down-to-earth account of how he should function to do his job with utmost efficiency.

DISCOUNTING areas subjected to sales taxes, each state has more *ratepayers* than *taxpayers*. Thus, the need for an adequate and aggressive press relations program as a tool for communicating activities of the regulatory commission.

With the emphasis on the ratepayer, rather than on the taxpayer, press relations purely for selfish political gain must be subordinated.

Naturally, there will be controversial pieces from time to time to add spice to the editor's routine. But, a repeated slant to fit the party's theme finally will become unacceptable—even to the working press of so-called "party rags."

Good press relations start at the top!

IF members of the commission—or, in the case of the state of Oregon, the *commissioner*—are not wholly "press relations conscious" the program will fizzle and sputter, but never get off the launching pad.

Given that the commission or commissioner is sold on press relations, the attitude must be carried on down through the supervisory echelon to the various field offices located throughout the state. At times, the relations of the field man with the local weekly or daily paper will be highly important.

*Informational representative, public utility commissioner of Oregon, Salem, Oregon. For additional personal note, see "Pages with the Editors."

A Good PRO Is a Must

WITH an inherent "consciousness" for press relations, the regulatory body has the bases loaded for getting its story to the public. However, the next man at the plate should be at least of .500 batting caliber to insure a stay in the win column.

He may be called a "press officer," an "informational representative," or a "public relations officer." Whatever the title, he should be placed close to the regulatory head and provided top-level recognition in all activities of the department.

He should be college- or university-trained, but not necessarily an engineer. A journalism graduate is preferable, but the prime requirement is that he has had thorough training with a news-gathering organization (United Press International or Associated Press) or on the staff of a major daily newspaper. An added asset would be training as a business or transportation news writer.

The technical training to make him proficient in the basic duties of the various regulatory sections can be done on the job. His major writing task will be that of converting technical phrases to those that can be understood by the lay reader.

A good man should be paid a comfortable margin above the going rate for a thoroughly competent newsman in his locality to enable him to meet on the same social level as the upper bracket of the Fourth Estate in the area.

A Gold Mine of News

MORE straight news copy can be developed from a regulatory commission than from any other state agency—including the office of the governor—if the field is harvested properly.

Almost every act of the commission is of interest to someone in the state, whether it is a utility rate increase, a change in bus routings, an application for a motor freight line to extend its service, public *versus* private power squabbles, or a crossing of a spur track "out in the sticks."

A good PRO (press relations officer) will develop his story for the media available in the area he plans to reach, and will treat the most insignificant item on the basis of its interest to that community.

Often, time will not permit the writing of the story to fit the whims of wire associations, the big city dailies, the radio or television stations, or the local weeklies. One story has to suffice, with the "meat" well up front so that extraneous material may be lopped off if not needed.

Complete and factual reporting, with both sides fairly represented, will instill confidence with a city editor, even if the subject may appear "political" in nature.

SINCE the office of the regulatory commission usually is in the state capital, the PRO's immediate contacts will be with the staffers of the wire associations and the correspondents for the larger dailies at the capitol pressroom.

He will be competing with the PRO's of other state agencies in the scramble for wire time, white space in the newspapers, and for time on the newscasts of the radio and TV stations. However, his copy will get preferred treatment if he designs his releases as they should be; *i.e.*, straight news, trimmed of the propaganda and

sugar-coated gingerbread found in the routine agency handouts.

All Contacts Important

THE down-state editor is just as important as the big city editor sitting in his ivory tower at the other end of the leased-wire reporting service. The former cannot afford the wire reports, but he is just as interested in what "the boys down at the capital" are doing. His deadlines are just as vital to him and a good PRO will comply with them.

When time permits, this weekly copy is dropped in the mail. As the deadline nears, a brief telegram or a telephone call on late-breaking news will endear the editor with the agency—even if he is not too happy with its regulatory activities.

His readers have a right to know what is going on, regardless of whether they believe it is in the public interest.

A good PRO will maintain contacts with the various media, making personal calls around the state as the need dictates. This does not mean during ordinary business hours. It is surprising the favorable reaction obtained by a PRO appearing in an upstate city room at 7 A.M. for a quick chat *before* the day's activities begin, or making a Saturday call on a weekly editor while the latter is cleaning up after the last issue. To do so, he has to keep the same hours they do.

Some Things a PRO Sees to

CAPITAL news rooms usually are not manned so that lengthy regulatory hearings may be covered. If the PRO has done his job well and he enjoys the confidence of the staffers, *his* coverage of the proceedings will be accepted—usually, in preference to any handouts from the utility concerned.

After the conduct of the hearing and the final regulatory order, the competent PRO will, in addition to his news release, make certain that editors of various newspapers are provided with copies of the order for possible editorial comment.

During the hearing, the PRO will have notified city editors and TV outlets of the possibilities of pictorial coverage of the proceedings.

THE Fifth Avenue slogan, *"all* advertising is *good* advertising" may well apply to the regulatory agency. If a commission case against a regulated entity fails of proof, that case should be reported as factually as it would be if the proceeding were open-and-shut, since events taking place in the hearing room are liable to be reported in a distorted fashion by the spectators. A PRO's factual release usually will be accepted ahead of hearsay.

If the press media recognize that the PRO will provide an honest report each time, they will tend to overlook or down play what appears to be inadequate or poor case presentation.

HYDRO POWER CO.
APRIL 1957
DIVIDEND
PAY TO THE ORDER OF JOHN H. DOE
THE SUM OF TWENTY-ONE DOLLARS AND 72 CENTS
AUTHORIZED SIGNATURE

Although the man at the top takes the rap as well as the credit for the activities of the regulatory body, it is well to hang a news story on a lower-echelon personality occasionally. Good sense will dictate preservation of the balance of power.

Human Interest Pieces Often Acceptable

PERSONNEL of the regulatory agency are citizens of the community, even if they are state employees. What they do or what happens to them often can be woven into short human interest items that may be passed along to the local city editor who always is looking for that "brightener" for an otherwise dull page. The item might not reach him through normal channels.

A good PRO also is on the lookout for *news* that does not originate in his own department that may be diverted to the media. Prestige and favorable relations can be heightened through this effort. A casual tip may develop into a good story or even a series.

In brief, his nose for news should not be short-circuited to activities of his own agency.

So far, it has been considered that the PRO has the complete backing of the staff from the top man down to the messenger girl. This is the Shangri-La of the regulatory PRO. Unfortunately, this happy situation rarely exists.

What really happens is that the PRO has to work as hard or doubly as hard as his working-press counterpart on a regular news beat.

SAY, the top man is not as keen for newsworthy items as is our PRO, Jones, who still does not have his own key to the washroom. He is ignored when the department heads Queen Bee for coffee.

And, after five o'clock, he is not invited to sit at the round table in the corner pub.

Worst of all he has not been called in on the conferences and gets little or no briefing as to what has been taking place behind closed doors. He filches a tip here, a scrap of information there, and fits it into the puzzle. Finally, he sees the commissioner.

"Oh, yes, Jones!" the man says. "Meant to tell you, earlier."

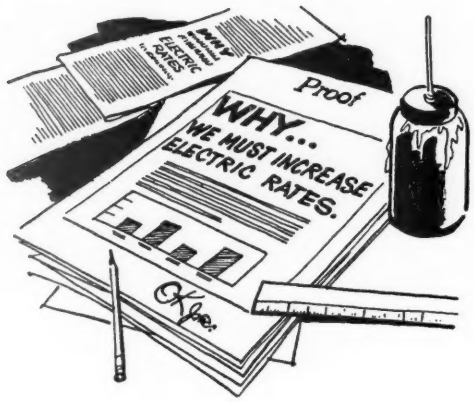
That's fine! But, while Jones has been beating the hallways trying to find out what is going on, a couple of deadlines are minutes away and he still has to put the thing together.

Good press relations? No. And, it is not even *good management!*

PRO Liaison Suggestions

THE PRO should be cut in on all meetings and conferences. If it is so top drawer Jones does not qualify for an invitation, he should be given a briefing after the session. Perhaps a news release would not be apropos at the time. But, *Jones* should be clewed in. If he is contacted by the working press, an immediate answer may be needed to prevent distortion or premature publication.

Close liaison must be maintained between department heads and the PRO. Many usable news items may be released in the absence of the commissioner as a routine procedure. If the parochial-minded head buries the matter until the story leaks out from a source down state, the



PRO has to hustle to get the proper angle on the press wire.

This is particularly desirable in the checking of facts prior to the release of the item.

At this time, every individual contacted suddenly becomes a writer. The engineer insists the item be replete with involved technical phrases. The legal eagle injects superfluous and pedantic language in his best Ivy League style. The finance department wants the full treatment. When the first draft has passed "co-ordination" the PRO might as well throw it in File 13 and start over.

He realizes he will be booted out of the news room if he submits copy that reads like a final order of the commission. His main job is to rewrite the gobbledygook so that the lay reader can understand it. *He* best knows what the media will accept. And, *he* is trained in the art of "selling" his story to get the best possible play.

Of course, there are times when the legalistic, engineering, or financial approach is highly desirable. Good press relations do not stop with the day-to-day media. Technical and trade journals are outlets for special-treatment pieces from the commission. Then, the help and advice for couching the well-turned phrase is highly welcomed, for few PRO's have sheepskins in several areas.

Utilities Are Often Helped PR-wise

Good press relations include favorable slants for the utilities under regulation. This frequently occurs at a time when the utility's paid hack may be out of phase with the breaking of the story and the opportunity for getting good play from his own angle rapidly dissipates. A good PRO will sweeten the release with proper mention of the utility's case without padding the item.

An example of this would be a news story regarding the commission's investigation of the manner in which utilities respond to emergencies arising out of an explosion, flood, earthquake, or other disaster. The commission's investigators usually are among the first on the scene with the Civil Defense people and

are in a position to observe the emergency capabilities of the utilities in restoring service to the affected area. Whereas the hack might be suspected of inflating his release, the regulatory PRO has the advantage of quoting officials directly concerned in the investigation.

Commission and Utilities Can Co-operate

FROM time to time, regulated entities will co-ordinate their own news releases with the commission to avoid conflict in timing or approach. No control is exercised over the utility's prerogative to release its own material, but the PRO may be able to make suggestions, obviating *two* releases and lessening confusion. This co-operative approach particularly is useful prior to rate proceedings, applications for certificates of convenience and necessity, and sales of utility properties, etc.

Timing of the news release is important. Most newspapers have an expanded issue during the week. A release timed to hit this period usually gets a better play. However, those scheduled for Monday A. M. papers, or, after a holiday, also can be assured of good treatment since news has been scant during the preceding twenty-four hours.

Morning and afternoon papers should be given alternate important stories, rather than holding them for one release at, say, 9 A. M., or 4 P. M., daily. The same perspective should be accorded the wire associations, one of which might serve a predominate number of the morning or afternoon papers in the area.

There are times when the stories develop on a cycle that places either media at a disadvantage. This is almost unavoidable.

Public Entitled to Fresh News

NEWS releases must be disseminated while they are still *news*. Too often, an attitude will develop with management that requires regulatory orders to be circulated before the PRO files his release. This makes his story as new as a Saturday matinee on TV. He must be "in" on the formative stages of the order and follow through with the release at the time the order is signed.

The fact that the parties concerned in the proceeding hear of the ultimate decision over the radio, see it on TV, or read about it in the newspaper before the order actually is published is immaterial. They usually have an advance personal telephone call at the time the order is signed.

The right of the general public (as well as the interested parties) to receive the news version in an impartial manner should be the governing factor.

Although most editorial writers prefer to do their own research, a regulatory commission PRO can provide stellar service in this regard, because of the vast amount of material available to the commission from other regulatory agencies. Its own historical files and archives also are available. He should be well acquainted with the leading editorial writers throughout the state, regardless of whether they are in agreement with controversial proceedings before the commission.

Keeping Score Important

GOOD *press relations are earned*. They are the result of day-in and day-out

effort through the co-operation of management and the shrewd techniques of the PRO. Once lost through lack of "press consciousness" or sloppy, inaccurate methods of the PRO and months of rebuilding are necessary to regain the measure of confidence previously enjoyed.

THE PRO should maintain a comprehensive file of material printed in the various newspapers. This usually can be obtained through the services of a competent press clipping bureau. The cost is nominal and value received will cover the outlay many times over.

Checked periodically, this file will reveal the daily and weekly attitude toward certain types of regulatory activity and will reveal any loss of attention in certain areas. The PRO then can salve any wounds before they fester and attempt to cure a developing situation with that particular media.

This file also can be used to reflect news releases from utility outlets, editorial reactions, and letters-to-the-editor comment. This latter source is excellent for checking the "pulse" of the ratepayer, even though most of the letters published are established as those from "crank" or chronic letter writers. The PRO often can correct misunderstandings or misinformation by replying directly to the editor of the paper publishing the letter as well as to the writer.

COVERAGE via radio and television will be difficult to monitor. But, the PRO will readily recognize his ability to "get through" by means of these media through occasional listening or viewing of newscasts when he is in a particular area or by comment of interested parties who are anxious to mention "I heard it on the radio" or "I saw it on TV the other night," etc.

The wire organizations are eager to keep the radio and TV clients, and, frequently, bits of news that do not make the newspaper in the area will receive a brief mention electronically.

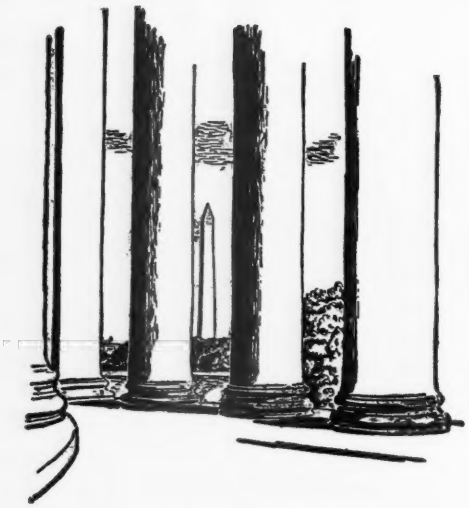
The regulatory commission should never underestimate the value of *good press relations.* There is no substitute. A halfhearted or weak press program is *not* better than no press program at all.

The flow of communications between the commission and the ratepayers is a modern management tool that cannot be ignored or lightly considered.

Properly treated and utilized, that tool will produce.

"THE new decade presents a special challenge to us of the business management community. Ours is a government 'of the people.' By that is meant a government of all the people, not just those with special interests. If any group neglects to participate actively in the election of political leaders and the formation of political decisions, to that extent the democratic processes fail to function as intended by the authors of our Constitution. Democracy is not a spectator sport."

—WILLIAM A. McDONNELL,
Chairman of the board, Chamber of Commerce of the United States.



Washington and the Utilities

A Session of Frustration

As these lines were written the leaders of Congress were preparing to wind up the short session before the Labor Day holiday. It was apparent, as of the closing days of August, that not much was expected by way of tangible legislative results. (The session finally adjourned on September 1st.)

It had been anticipated, of course, that in a political atmosphere generated by the rival presidential candidates staring at each other across the floor of the same Senate the partisan pressures and counter-pressures might well bring about such a stalemate.

Yet the majority in Congress evidently felt that at least some political advantage might have been gained from resuming the session after the party conventions. Senator Johnson, the Democratic vice presidential candidate, is largely credited with harboring this view, but Senator Kennedy (Democrat, Massachusetts), the head of the ticket, must have gone along with the idea. Otherwise, the short session would not have happened.

Whatever the motives or hopes, it was clear as the present Congress limped towards the end of its legislative tenure that neither party would gain much, if any, political advantage. The Kennedy-Johnson camp evidently placed its chips on the possibility that a dramatic session would attract large blocks of voters by accomplishing the enactment of certain major bills which could be brought into the campaign regardless of whether the President signed them or not. If he signed them, the Democrats could take the bow; and if he vetoed them the Republicans could take the blame. That was the strategy.

But what actually happened was largely an exercise of futility. If the voters have any picture at all of the short session, it is of limited action on all controversial matters. This leaves them for the campaign, and leaves to the next Congress the real decisions that must be made. The congressional majority cannot make a convincing case about the failure of White House leadership, when its own leadership could not get its proposals through Congress, dominated 2 to 1 by its own party membership. President Eisenhower was quick to point this out at a

recent press conference. The Republicans, on the other hand, must face up to the responsibility, if any, of combining with southern conservatives in blocking final action on major proposals in the form Senator Kennedy desires. Their own proposals in Congress were roundly trounced.

But with such "honors even," if that is a fair expression of the situation, the image presented to the voters is a confusing one. Out of such a tangle, no clear-cut evidence of who was responsible for what can be made in a convincing enough manner to affect the broader electorate. And so our rival political warriors must look elsewhere for their campaign ammunition.

For the country at large, however, the dissatisfaction over deferred decisions is not a very positive or constructive note on which to start a campaign. The compromises over minimum wages, medical care for the aged, and public housing and federal aid to schools, have all been patched-up stopgaps on which both parties may talk much but convince few.

SIFTING through what little was accomplished during the August meeting, the business community, including the public utilities, has nothing much either to cheer or bemoan. Congress had earlier killed hopes of a change in the excise tax on monthly telephone bills, toll calls, plane, train, and bus transportation. The large appropriation bills for federal agencies engaged in government power project building and operations, and the REA rural electric and telephone loan programs, have all largely followed the prescribed budget pattern. The perennial proposals to relieve the natural gas producers from control of the Federal Power Commission had not even stirred in their committee pigeonholes.

The regulatory reform bills, trumpeted so loudly following the sensational disclosures of the Harris Subcommittee on Legislative Oversight, had petered out into a few perfunctory measures affecting FCC operations, but with a promise of broader action at a later date. Corporate and personal income tax changes were never even seriously considered. And so, from the utility and regulatory points of view, the session drew to a close on a note reminiscent of that well-known phrase of baseball: "No runs, no hits, no errors."

Considering the caliber of bills introduced but not acted upon, it might even be fair to add, "Nobody left on base." This does not mean, of course, that the voters will not be faced with the responsibility of making some tremendous decisions on matters of major policy by voting time next November. But these are decisions postponed, rather than foreordained by any dramatic consequences resulting from action on Capitol Hill.

Advertising Expenses as Income

THE FPC in mid-August finally dropped the other shoe on the long-drawn-out investigation of 76 electric companies with respect to treatment of certain advertising expenses of a so-called political nature. This group of companies was ordered on August 17th to reclassify their accounts to reflect the cost of certain advertising. (See, also, page 417.)

The commission concluded that the companies' expenditures for eight advertisements which appeared during 1957 in national magazines "are political in character" and should be classified as income deductions. The advertisements were published as part of the "Electric Companies Advertising Program" (ECAP) under the sponsorship of "America's Independent Electric Light and Power Companies."

The proceedings were instituted two years ago when the FPC issued an order questioning the treatment accorded by the 76 companies for the cost of nine of the 26 advertisements involved in the 1957 ECAP program. The companies treated the cost as operating expenses. Cost of the questioned advertising was estimated at $863,130, representing 43.25 per cent of the total cost ($1,995,661) of all copy placed under the 1957 program. In its August opinion, the FPC held that one of the nine questioned advertisements was not political in nature.

HEARINGS in the case originally started January 6, 1959, at which time FPC Presiding Examiner Edward B. Marsh excluded evidence offered by the companies on the ground it was intended to show a justification of the amounts expended for their advertising program rather than whether these amounts were properly accounted for under the FPC's Uniform System of Accounts. The following July 15th, the FPC issued an opinion affirming the examiner's ruling. Further hearings were held last November 23rd and 24th, at which Examiner Marsh rejected further testimony by the companies, ruling that it was excluded by the FPC's July 15th opinion. Following conclusion of these hearings last November 24th, the FPC ordered the intermediate decision procedure omitted so that it could decide the case directly without the filing of a decision by the examiner.

Prior to its order instituting the proceedings, the FPC advised the companies that the advertising expenditures appeared to involve "the presentation of argument in matters of political controversy" and therefore were not properly includable in the operating expense accounts (above the line), normally charged against the ratepayer. Instead, the companies were advised that the expenditures should be classified as income deductions (below the line), normally charged against general corporate income.

IN the August 17th opinion the FPC said that the eight advertisements clearly "deal with a political controversy, the private-public power dispute, and hence involve the presentation of argument in matters of political controversy." The advertisements have as a basic ultimate purpose the influencing of public opinion as to the repeal of existing law, the commission continued, and thus are directly political. In addition, the FPC said "it is a fair inference that their ultimate purposes include the influencing of public opinion as to such matters as the election of public officers, proposed legislation, and influencing the decision of public officers."

Public Power Projects in Congress

THE action of the congressional conferees on the $4 billion public works appropriations bill (HR 12326) largely followed the House version with respect to differences between the two measures. This included $20.5 million for the Tennessee Valley Authority, providing, among other things, $4 million to start construction of the Melton Hill dam on the Clinch river. The Army Engineers and the Reclamation Bureau received over $1.2 billion, which included the following items: Bonneville Power Administration, $29.5 million; Southeastern Power Administration, $800,000; and Southwestern Power Administration, $2.5 million. It also provides planning and construction money for 61 projects which were not included in the President's budget. The

House had added 23 projects and the Senate approved 38 additional ones. The Senate version of the bill calls for $25.8 million more than the President asked for and $115.2 million more than the House approved.

No action was taken on the ambitious bill of Senator Gruening (Democrat, Alaska) to build the nation's largest hydroelectric dam in our forty-ninth state. The dam would cost a billion dollars and would provide three times as much power as generated by Grand Coulee in Washington, the nation's largest concrete dam. Gruening contends the dam is needed to supply power for future development of Alaska. He envisions a great era of economic development, sparked by vast amounts of low-cost power. It would enable vast mineral deposits in the interior to be tapped, he believes. There was not much enthusiasm for the project in the Eisenhower administration.

LIKEWISE left at the post was a proposal by Senator Moss (Democrat, Utah) to commit the federal government to a building program of $17.5 billion for conservation of resources in the next ten years. "Survival as a first-class nation," Moss said, "may be as much dependent upon what we do with our resources as what we do about our military defense."

As with a number of other legislators, Moss believes that the Soviet Union's accelerated program of resources development may constitute a threat to this nation. Moss charged in a 17-page speech that the administration is more interested in hard money and a balanced budget than with conservation of forests, minerals, and water. Last January Senator Moss was a member of a subcommittee which visited the Soviet Union and brought back a controversial report concerning the Soviet's advances in hydroelectric development.

The Candidates on Gas

IT is generally assumed, both by his votes in the Senate and his advocacy of so-called "consumer interest" in his native state of Massachusetts, that the Democratic candidate for President, Senator Kennedy, is and will be opposed to legislation to ease FPC regulatory controls over natural gas producers. Whether his affinity with the Democratic vice presidential candidate, Senator Johnson of Texas, will alter this point of view remains to be seen. In any event, the question is rather academic at this point, in view of the pronounced lack of interest shown in the so-called Harris Bill.

Senator Kennedy's wholehearted endorsement of the Democratic platform likewise suggests that he might be interested in future measures to curtail or even repeal the 27½ per cent depletion allowance, now permitted for income tax purposes on oil and gas well production. Again, the influence of Senator Johnson, who has long been an effective champion of depletion allowance for his Texas constituents, becomes a question mark.

On the Republican side there is apparently a different picture. Vice President Nixon is reported to be in favor of retaining the 27½ per cent tax depletion allowance for the oil and gas industry, as well as legislation to free natural gas producers from FPC regulation, or at least to ease such controls. The Vice President's views on these two controversial issues were conveyed indirectly to reporters by Herbert G. Klein, press secretary to the Vice President. The question came up early in August in one of Klein's briefings for reporters.

Telephone and Telegraph

"Equal Time" Provision Suspended

PRESIDENT Eisenhower has signed into law a Senate resolution which clears the way for the televised debates between presidential candidates Nixon and Kennedy. The legislation enables the three major networks to offer free air time to the two major candidates without having to give equal time to minor splinter party candidates. The legislation, however, does not rule out the rights of a substantial third party but it does protect the networks from having to give air time to self-appointed candidates.

NBC, CBS, and ABC had each offered eight hours of free air time providing the "equal time" provision of the Federal Communications Act would be canceled. President Eisenhower has stated that he believes the measure will permit the networks to perform a fine public service since the costs of presenting issues and personalities during a campaign have risen sharply.

The measure was supported by both Republicans and Democrats in Congress. The legislation is not permanent and following the election the suspension will be ended and a strict interpretation of "equal time" will again be in force. When the new Congress convenes there seems to be a good chance that a permanent change in the Communications Act will be made. The present chairman of the House Interstate Commerce Committee, Representative Harris (Democrat, Arkansas), has urged such legislation. Some careful study will have to be given the matter since the lawmakers would not want to rule out "nuisance" candidates at the expense of third parties with a substantial following. For the moment, at least, the decks are cleared for a real old-style political debating session.

Communications Industry's Metal Usage

THE U. S. Department of Commerce, Business and Defense Services Administration, has announced that the domestic communications operating industry, which incorporates both the telephone and telegraph service of this country, used approximately 35,650 tons of steel and 258 million pounds of copper last year.

The estimate was made by BDSA's Communications Industries Division as an aid to mobilization planning, and showed that the steel went largely into steel line wire, strand for supporting cables, and guys for pole line construction. Cables,

copper line wire, copper-clad line wire, and drop wire were principal copper consumers.

One hundred of the largest telephone companies, comprising about 94 per cent of the industry, were surveyed. They reported actual use of 33,450 tons of steel and 242 million pounds of copper. More than 85 per cent of the copper is purchased in rod or bar form by the wire and cable suppliers of the industry.

The report states that the figures were the first that had been obtained on steel and copper consumption by the communications industry since 1952, when Korean War controls were still in effect. Since 1952 use of steel has decreased about 37.5 per cent, while copper consumption has gone up 66 per cent in the communications industry.

Continued expansion of the industry is indicated by the figures. The telegraph industry is expanding due to increased military contracts and other service. Telephone plant investment now exceeds $26 billion.

Echo I Proves Versatility

THE Echo I satellite has been the backboard for just about every conceivable type of signal that can be aimed at it. Regular radio transmissions have been made, telephone conversations have been bounced from its thin plastic skin, and even music and TV signals have been reflected back to earth as the satellite continues its orbit around the earth.

The Associated Press, together with the Collins Radio Company, has even bounced a wirephoto of President Eisenhower off the satellite. A standard Associated Press wirephoto transmitter produced the signals which were beamed at the satellite by a dish antenna in Cedar Rapids, Iowa. A similar antenna at Dallas, Texas, received the return signals which were then fed into an Associated Press wirephoto receiving unit. It took less than five minutes to complete the transmission of the photo. Transmission and reception were handled at the same speed that wirephotos generally move.

In another experiment with the passive satellite, a successful transoceanic radio connection was completed between Holmdel, New Jersey, and a radio station at Issy Les Maulineaux, France.

Dr. John Robinson Pierce, of the Bell Telephone Laboratories in Holmdel, New Jersey, has stated that he believes transoceanic television is "around two years" away. He emphasized that this forecast could not be exact but he did state that an extensive amount of testing and experimentation will have to be completed before such a system can be put into operation.

Dr. Pierce is the scientist who put forth the idea of using a satellite as a relay station and he was a major influence in the development of Echo I.

A GOOD many technical problems will be solved and a good many answers are sure to be worked out as Echo I continues to spin about the earth. Foremost in scientists' minds are the possible effects on the satellite when it goes into eclipse. Then, too, the infinitesimal pressure of sunlight on the 100-foot sphere is forcing the satellite toward the earth's atmosphere and destruction from air friction.

Scientists estimate that the pressure of sunlight is only .0000001 pounds per square foot. The satellite, which weighs only about 80 pounds, presents a large area to sunlight with a very small mass. It is estimated that the pressure of sunlight on Echo I amounts to only about .00075 pounds per day, but this is enough

to bring it 2.2 miles closer to the earth on its perigee (the closest approach that it makes to the earth's surface) every twenty-four hours. Solar energy alone would bring the satellite to a fiery end in about 450 days. However, the satellite is also being influenced by air drag and on each closer approach to the earth this becomes greater.

Wage-hour Amendments Fail

AFTER a good bit of foot dragging the House Rules Committee finally agreed to a conference on the minimum wage bill. The House version of the bill is more conservative than the proposal sponsored by Democratic Presidential Candidate Kennedy, and a good bit of backstage maneuvering took place before the bill finally bogged down in conference.

Senator Kennedy was a member of the conference committee and of course was a strong voice for his version of the bill which would raise the minimum wage to $1.25 over a three-year period. Of most interest to the telephone industry is the difference between the Senate and House versions as related to the small telephone switchboard operators' exemption. The Kennedy proposal would just about eliminate this exemption and would create considerable hardship in such small exchanges. The House version, while upholding a $1.15 figure, was much more limited in its extended coverage provisions.

Conferees were unable to agree and the bill died when the House insisted on its bill. Thus, the small telephone switchboard operators' exemption remains without change.

Payola Legislation Passed

THE House and Senate have agreed on a bill which would crack down on corrupt broadcasting practices brought to light in the celebrated "payola" hearings.

Rigged quiz shows and undercover payments to radio and TV personnel for "plugs" are specifically prohibited. Fines of up to $1,000 a day for ten days could be levied against stations found guilty of violating the new law. However, a House-sponsored provision that would have permitted the Federal Communications Commission to suspend station licenses for ten days, in addition to the fine, was defeated. President Eisenhower has already indicated that he favors such legislation and his signature should be on the bill by the time that this article is in print.

The House hearings on "payola" formed the basis for this legislation. It also accounts for the House version being much more stringent in its penalties than the Senate. It has been stated that the suspension of licenses, which the House advocated, would be a greater hardship on the audience than on the station. The bill which was finally passed had this provision removed. Senator Pastore (Democrat, Rhode Island) has commented that it is a "strong bill, but not a punitive bill, and is not intended to harass or embarrass the broadcasting industry."

Other more extensive "regulatory reform bills" which were introduced following the disclosures of the House Subcommittee on Legislative Oversight were passed over by the short session on the theory that they demanded much more deliberate consideration. But regardless of the outcome of the elections they are bound to come up again early next year for consideration by the new Congress.

Financial News and Comment

By OWEN ELY

Utility Growth Stocks—Do They Sell on Future Yields, Or Hopes of Capital Gains?

CHARLES TATHAM, utility analyst of Bache & Co. and formerly vice president of the Institutional Utility Service, has done some interesting research on utility growth stocks, tending to "deglamorize" them.* He compares stock A which yields 5 per cent, with the dividend increasing at an average annual rate of 4 per cent, with stock B yielding only 2 per cent but whose dividend increases at an annual rate of 12 per cent. The investor might choose stock B (in preference to A) in the belief that with growth three times as fast, the resulting increase in the dividend rate would soon overcome the disadvantage of the lower initial yield. This might be true from a very long-term point of view, but it would not be until the thirteenth year that the yield on the initial cost of B would surpass that of A.

But this does not tell the whole story. The yield in some future year is of less significance than the *average income return* over a period of years, and, from this standpoint, stock A is even more strikingly better than B, its average yield of 6 per cent over a ten-year period comparing with only 3.5 per cent for B. Even if held for twenty years, fast-growing B fails to provide quite as good an average return as A. Mr. Tatham points out:

> More recently, and currently, the market has been placing great emphasis on growth expectations, and the prices of stocks of companies which have had a superior record in this regard have risen to levels where current dividend yields in the area of 2 per cent to 3 per cent are fairly common. Apart from the obvious risk in an assumption that a past record of much greater-than-average growth will persist for a long (10-to-15-year) period in the future, the startling fact revealed is that even if it does, the income return to the investor will in most cases be less than

*We commented on a similar earlier bulletin of Mr. Tatham's in the issue of March 26, 1959.

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in the case of the slower growth stocks with a more nearly "normal" current yield.

MR. TATHAM presents two lists of electric utility stocks — group A including 13 growth stocks with an average yield of 2.62 per cent and an average rate of dividend increase of 8.8 per cent; and group B containing 18 electric utilities with an average yield of 4.49 per cent and an average rate of dividend increase of 4.6 per cent. The rate of dividend increase was based on a study of earnings increases over the past ten years.

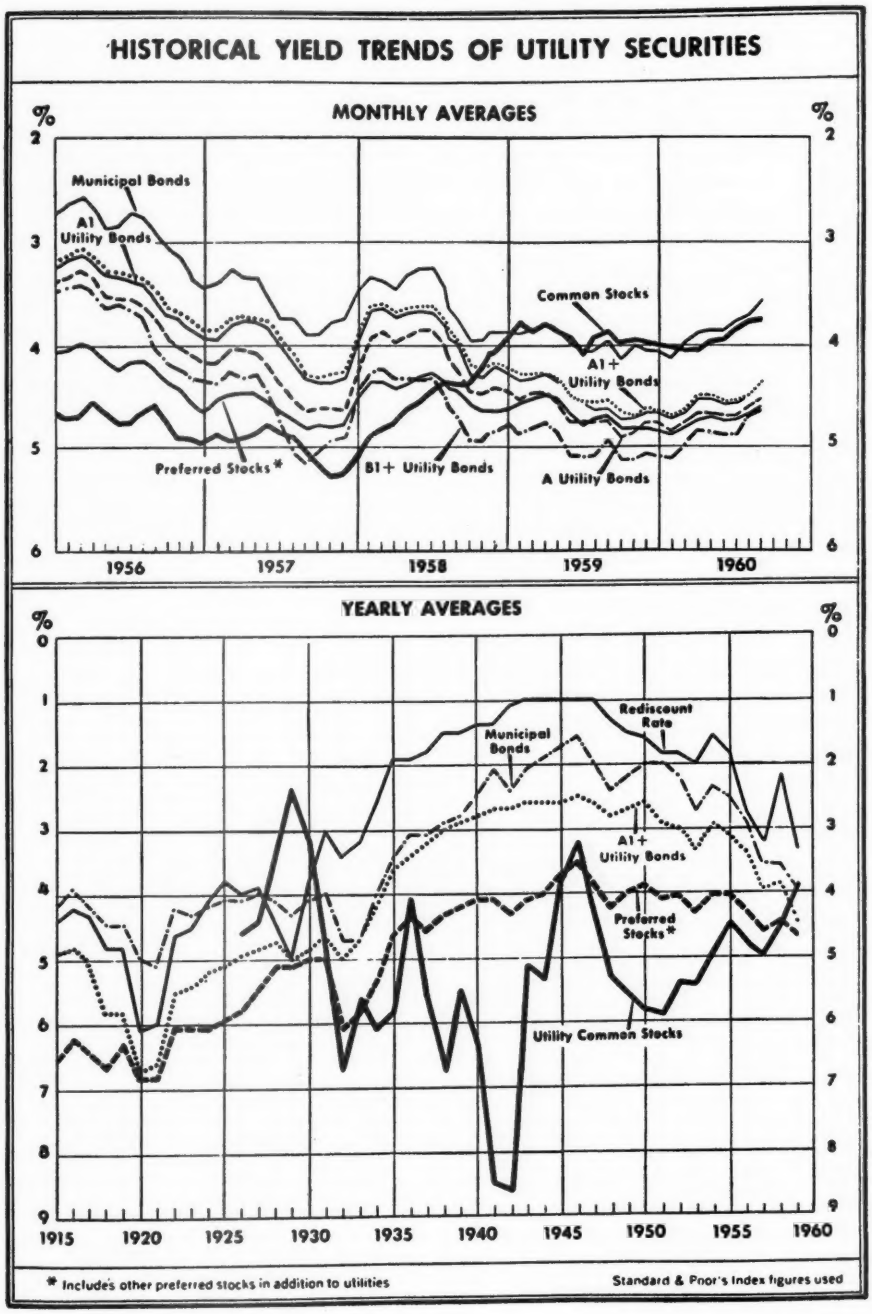
Mr. Tatham states that he is not considering the question of possible capital appreciation, but is assuming that utility stocks are "essentially bought for the income they will provide over a period of years and that a high price today (low current yield) is justified only by the assumption that future dividends will so increase . . . that over a period of years a satisfactory income will be received in relation to initial cost. We believe that this assumption is a reasonable one and that it reflects the thinking of most institutional investors. . . . We do not believe that utility common stocks should be considered speculative capital appreciation opportunities. The fundamental rôle of public utility enterprises as suppliers of basic public service needs should rule against this view. The basic concept of public regulation, designed to restrict earnings to a reasonable return on capital investment values, negates any such optimistic appraisal. . . . The inevitable alternative would be government ownership."

UNFORTUNATELY, many investors — both institutional and private—may not be quite as single-minded or idealistic as Mr. Tatham thinks they should be. They do not seem to distinguish between growth utilities and other growth stocks. The idea of capital gains seems as firmly rooted in our investment psychology as the idea of profits is embedded in our business psychology. Even the small investor wants to have his cake and eat it —he would like a good yield and growth too. The sophisticated buyer of growth stocks is usually hopeful of two developments: (a) that earnings will continue to increase at about the same pace as in the past five or ten years, thus permitting a substantial capital gain to be obtained as an addition to the small yield; and (b) that the price-earnings ratio may lengthen still further which would give him a still larger potential profit. Eventually he hopes to "unload" on some future investor who is even more optimistic than he is—the old game of musical chairs.

It is obvious that with growth utilities, potential capital gains have far more than offset low yields since 1942. The following figures are based on the year-end averages for our index of electric utility growth stocks:

	Price Index	*Per Cent Increase*
1947	10.8	—
1948	11.8	9%
1949	14.6	24
1950	14.4	D 1
1951	16.7	16
1952	19.7	18
1953	21.5	9
1954	27.1	26
1955	30.5	13
1956	32.7	7
1957	37.2	14
1958	49.6	33
1959	52.4	6
1960 (August 10th)	63.1	20
Average		15%

OBVIOUSLY, it has not been necessary to be "a long pull" holder to realize capital gains far in excess of dividend yields during the present bull market which, so far as electric utilities are con-


HISTORICAL YIELD TRENDS OF UTILITY SECURITIES
MONTHLY AVERAGES
%
2
3
4
5
6
Municipal Bonds
Aa Utility Bonds
Common Stocks
Aa+ Utility Bonds
Preferred Stocks*
Baa+ Utility Bonds
A Utility Bonds
1956
1957
1958
1959
1960
YEARLY AVERAGES
0
1
2
3
4
5
6
7
8
9
Rediscount Rate
Municipal Bonds
Aa+ Utility Bonds
Preferred Stocks*
Utility Common Stocks
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960
* Includes other preferred stocks in addition to utilities
Standard & Poor's Index figures used

cerned, has been in progress for the last eighteen years and (aided by the recent "easy money" trend) still shows some signs of vitality. An investor buying at one year end and selling a year later would have profited in every year except 1950 when he would have had a 1 per cent loss. Of course if he had bought in 1947 and held his stocks pertinaciously, they would be worth nearly six times as much today; or if he had bought five years ago he would have doubled his money with something to spare.

This is the motive which prompts investors to buy growth utilities and to disregard low yields. The same thing happened in 1929 when the average yield was only 2.1 per cent on Moody's 24 electric utility stocks, compared with 3.9 per cent in 1959; and these same stocks yielded 7.5 per cent in 1932 although the average dividend rate was almost as high as in 1929. Today's sophisticated investors think they have a safer bet than in 1929, when frenzied utility holding company finance made even the best operating company stocks very vulnerable. But if for any reason (such as stricter regulation) the idea of continuing growth is suddenly dispelled, the price-earnings ratio can sink rapidly. Utility finance and utility regulation today are basically far sounder than in 1929, but the psychology involved in the *appraisal* of growth and the *pricing* of stocks may still be just as vulnerable—and in that respect Mr. Tatham's ideas undoubtedly have merit.

MEANWHILE, the discussion of growth stocks in general continues to be a favorite and possibly a sustaining factor in the stock market as a whole. M. N. Gillan, a registered representative in the Hackensack office of W. E. Hutton & Co., has prepared a $2 brochure on "Yardsticks for Appraising Growth Stocks." He presents a table, based on earnings (not yields), showing the "number of years' anticipated earnings" which are reflected in the price. Thus a stock with a price-earnings ratio of 10 and a growth in earnings of 5 per cent per annum is selling at only 8.3 years' total earnings; and at 20 times earnings it would be selling for 14.2 years' earnings. However, if the rate of growth were 15 per cent, the latter figure would drop to 9.9 years' earnings.

TALKS ON UTILITY COMPANIES AT N.Y.S.S.A. SEPTEMBER 3, 1958, TO AUGUST 31, 1960

Date	*Company*	*Speaker*
9/ 3/58	Otter Tail Power Co.	Cyrus G. Wright, President
9/10/58	Southern Union Gas Co.	C. H. Zachry, President
9/17/58	Southwestern Public Service Co.	H. L. Nichols, Chairman
10/ 1/58	Atlantic City Electric Co.	B. L. England, President
10/15/58	St. Joseph Light & Power Co.	D. A. Merrifield, President
10/29/58	Northern Indiana Public Service	Dean A. Mitchell, President
11/ 5/58	Piedmont Natural Gas Co.	Buell G. Duncan, President
11/12/58	Baltimore Gas & Electric Co.	J. Theodore Wolfe, President
11/19/58	Texas Gas Transmission Corp.	William M. Elmer, President
11/26/58	Laclede Gas Company	Robert W. Otto, Chairman
12/ 3/58	Northern States Power Co.	Allen S. King, President
12/10/58	Pioneer Natural Gas Co.	C. I. Wall, President
12/17/58	Cleveland Electric Illuminating	F. Warren Brooks, Vice President Finance
1/ 7/59	General Public Utilities Corp.	H. A. Busch, Vice President E. W. Morehouse, Vice President
1/28/59	Virginia Electric & Power Co.	E. H. Will, Vice Chairman
2/ 4/59	Florida Power Corporation	W. J. Clapp, President
2/18/59	Carolina Power & Light	L. V. Sutton, President

2/25/59	Peoples Gas Light & Coke Co.	Eskil I. Bjork, Chairman
3/ 4/59	Consumers Power Company	Robert P. Briggs, Exec. Vice President
3/11/59	Electric Utility Industry	J. E. Corette, President, E.E.I.
3/18/59	American Electric Power Co.	Philip Sporn, President
3/25/59	Hartford Electric Light Co.	R. A. Gibson, President
4/ 1/59	Southern California Edison	Harold Quinton, Chairman
4/ 9/59	Electric Bond & Share	George G. Walker, President
4/15/59	Oklahoma Natural Gas Co.	H. A. Eddins, President
4/22/59	Detroit Edison Co.	Walker L. Cisler, President
4/24/59	Greyhound Corporation	F. W. Ackerman, President
4/29/59	Northern Natural Gas Co.	John F. Merriam, President
5/ 6/59	American Telephone & Telegraph Co.	W. C. Bolenius, Vice President
5/20/59	Florida Regulation	Alan Boyd, Florida Railroad and Public Utilities Commission
5/27/59	Louisville Gas & Electric Co.	G. R. Armstrong, President
6/ 3/59	Iowa Electric Light & Power Co.	Sutherland Dows, President
6/10/59	American Gas Association	J. T. Wolfe, President, A.G.A.
6/13/59	National Propane Corp.	Harry N. Forman, President
8/ 5/59	Southwestern Public Service Co.	Herbert L. Nichols, Chairman
8/14/59	Federal Power Commission	William R. Connole, Commissioner
8/19/59	New Jersey Natural Gas Co.	Dale B. Otto, President
8/26/59	Illinois Power Co.	Allan Van Wyck, President
9/ 9/59	Commonwealth Edison Co.	Willis Gale, Chairman
9/16/59	Texas Eastern Transmission Corp.	James W. Hargrove, Financial Vice President
9/23/59	Montana-Dakota Utilities Co.	{Cecil W. Smith, President {Frederick R. Gamble, Vice President
9/30/59	Liberalized Depreciation	Albert C. Barkwill, Lehman Corporation
10/ 7/59	Quebec Natural Gas Corp.	Leonard Milano, Exec. Vice President
10/ 8/59	Western Union Telegraph Co.	E. F. Sanger, Director of Public Relations
10/14/59	Washington Natural Gas Co.	Charles M. Sturkey, President
10/21/59	Pacific Gas & Electric Co.	Kenneth C. Christensen, Vice President
10/28/59	Rochester Telephone Corp.	William A. Kern, President
11/ 4/59	South Jersey Gas Co.	Theodore H. Kendall, President
11/11/59	Central Illinois Light Co.	G. W. Hathway, Exec. Vice President
11/18/59	Tennessee Gas Transmission Co.	Gardiner Symonds, President
11/25/59	Nuclear Power	James F. Fairman, Sr. Vice President, Consolidated Edison
12/ 2/59	Mississippi River Fuel Corp.	William G. Marbury, Chairman
12/ 9/59	Citizens Utilities Co.	Richard L. Rosenthal, President
12/16/59	New England Electric System	Irwin L. Moore, Chairman and President
12/23/59	Orange & Rockland Utilities	Charles L. Hulswit, President
12/30/59	Public Service Co. of Colorado	William D. Virtue, Exec. Vice President
1/13/60	Rochester Gas & Electric Corp.	Ernest J. Howe, President
1/20/60	Gulf States Utilities Co.	Roy S. Nelson, President
1/27/60	Philadelphia Electric Co.	R. G. Rincliffe, President
2/ 5/60	New York City Transit Authority	Charles Patterson, Chairman
2/17/60	Bangor Hydro-Electric Co.	Robert N. Haskell, President
2/24/60	San Diego Gas & Electric Co.	Emery D. Sherwin, President
3/ 2/60	Florida Power & Light Co.	Robert H. Fite, President
3/ 9/60	Tampa Electric Co.	William C. MacInnes, President
3/16/60	Utah Power & Light	Edward M. Naughton, President
3/23/60	Idaho Power Company	Thomas R. Roach, Chairman and President
3/30/60	New England Gas & Electric Assn.	John F. Rich, President
4/ 6/60	Northern Ontario Natural Gas Co.	R. K. Farris, President
4/13/60	Oklahoma Gas & Electric Co.	D. S. Kennedy, Chairman and President
4/20/60	Montana Power Co.	J. E. Corette, President
5/11/60	General Telephone & Electronics Corp.	Donald C. Power, Chairman
5/27/60	Iowa Power & Light Co.	N. Bernard Gussett, Chairman
6/ 1/60	Delaware Power & Light Co.	Frank P. Hyer, President
6/ 8/60	National Fuel Gas Co.	Stuart H. Nichols, President
6/10/60	Iowa Electric Light & Power Co.	Sutherland Dows, President
6/15/60	Southern Nevada Power Co.	Reid Gardner, President
6/22/60	Houston Lighting & Power Co.	T. H. Wharton, President
6/29/60	The Empire District Electric Co.	D. C. McKee, Chairman
7/ 6/60	Middle South Utilities	Edgar H. Dixon, President
7/13/60	Brooklyn Union Gas Company	John E. Heyke, President
8/ 3/60	Lone Star Gas Company	L. T. Potter, President
8/17/60	Indiana Public Service Commission	Robert Webb, Chairman
8/31/60	Southwestern Public Service	Herbert L. Nichols, Chairman

FPC Fixes 6⅛ Per Cent Rate Of Return in Tennessee Gas Case

TENNESSEE GAS TRANSMISSION'S $26,590,000 rate increase case (Docket No. G-19983) is being decided "in stages" by the FPC, in order to expedite the case. It was decided to tackle rate of return first, all other factors relating to rate base, cost of service, etc., being accepted for the time being as presented by Tennessee. The company had asked for a 7 per cent return but the staff felt that 6⅛ per cent was adequate, and the commission agreed, although Chairman Kuykendall favored 6¼ per cent. It may be of interest to study the commission's reasoning, since the case may be somewhat basic in the future regulation of rates charged by pipelines.

Discussion revolved around cost of capital. The staff favored including in long-term debt the $18.5 million deferred taxes, which it contended is equivalent to a long-term loan at zero interest—going a step further than excluding this item from the equity; but the question was reserved for later treatment, along with the troublesome issue over the proper treatment of tax benefits for depletion and drilling costs.

THE weighted average costs of Tennessee's debt and preferred stock issues were taken as 4.35 per cent and 4.90 per cent, respectively. The heart of the controversy was fixing the rate of return on common stock book value which would be necessary "to attract equity capital." At a 6 per cent overall return, this should work out at 9.69 per cent; at 6½ per cent overall, 11.39 per cent; and at 7 per cent overall, 13.08 per cent. In support of its proposed 7 per cent overall return, Tennessee stated that it had historically earned a return of 14 to 16 per cent on its equity and that this should be permitted to continue. It held that the gas pipeline companies as a group are entitled to a higher return on equity than electric utility companies, which have historically received a return of close to 11 per cent on a larger common equity base.

In this connection the table worked out by Walter Herrman, vice president of Southern California Gas Company, showing the per cent earned on book value for a large number of utilities, is of interest: The recent average for 14 gas pipeline companies is 13.31 per cent and the figure was as high as 16.18 in the period ending June 15, 1956. (The latest electric utility figure is 11.27.)

HOWEVER, the commission held that Tennessee's financial and operating situation has improved so much that it is no longer entitled to the same return on book equity which it has historically enjoyed. Moreover, both the staff and the commission preferred to use earnings-price ratios "with judgment" to determine proper rate of return, holding that the investor's appraisal of the risks inherent in the enterprise, and the return which he requires in the light of this appraisal, are basic to a determination of the allowance for common equity. In the past five years Tennessee's E-P ratio averaged 5.8 per cent compared with an average of 6.3 per cent for ten other major pipelines. For this and other reasons the FPC felt that the company has enjoyed a favorable and improving position in the money market in relation to other companies. Hence it concluded that an allowance of only 10 to 10.5 per cent on common equity would be adequate for Tennessee, corresponding roughly to an overall return of 6⅛ per cent.

In the Herrman table referred to above,

the recent earned return for Tennessee was 12.57 per cent, hence the commission's decision seems equivalent to a general cut of nearly one-fifth in the company's earning power. The company may have to make immediate refunds to customers of about $11 million (*P.U.R. Executive Information Service,* Letter No. 1389, August 12th).

Rate of Return Earned on Rate Base for Different Classes Of Con Ed Customers

SOME interesting statistics are contained in Exhibit 112A, Table 4A, filed in the current consolidated Edison rate proceedings before the New York Public Service Commission. The rate of return earned in the calendar year 1959 (on the average rate base) for residential customers using up to 2,121 kilowatt-hours was 8.1 per cent; for those using over that amount, 5.8 per cent. For general customers using up to 15,912 kilowatt-hours, the return was 10.7 per cent; 15,912 to 420,000, 8.9 per cent.

The figures seem to indicate that Con Ed's net earnings from supplying its largest customers, including the city of New York, are not very profitable. A 2.6 per cent return from "general" customers using over 420,000 kilowatt-hours per annum seems particularly low, although they contribute over one-sixth of total revenues. These customers include some of the department stores, big real estate projects, large industrial customers, and nonsubmetering landlords.

It would be interesting to have more of these cost analyses in rate cases. In our opinion, too little information has been made available on this important phase of utility earning power.

FINANCIAL DATA ON GAS UTILITY STOCKS

Annual Rev. (Mill.)			*8/23/60 Price About*	*Dividend Rate*	*Approx. Yield*	*Recent Share Earns.*	*Per Cent Increase In Share Earn. Recent*	*5-yr. Aver.*	*Price-Earn. Ratio*	*Div. Payout*	*Approx Common Stock Equity*
		Pipeline and Integrated Systems									
$ 6	O	Ala. Tenn. Nat. Gas	24	$1.20	5.0%	$1.57Je	8%	8%	15.3	76%	43
227	S	American Nat. Gas	68	2.60	3.8	4.78Je	10	7	14.2	54	40
111	A	Ark-Louisiana Gas	35	1.00	2.9	1.71Je	11	50	20.5	59	40
62	O	Colo. Interstate Gas	40	1.25(r)	3.1	1.77Je	NC	11	22.6	71	26
465	S	Columbia Gas System ..	21	1.00	4.8	1.53Je	11	6	13.7	65	45
21	O	Commonwealth N. G. ..	23	1.10	4.8	1.76Je	12	6	13.1	63	52
12	S	Consol. Gas Util.	26	.90(b)	3.5	1.59Ap	10	15	16.4	57	59
324	S	Consol. Nat. Gas	48	2.20	4.6	3.45Je	12	3	13.9	64	58
452	S	El Paso Nat. Gas	34	1.30	3.8	1.66De	3	11	20.5	78	21
55	S	Equitable Gas	38	1.85	4.9	2.51Je	D4	11	15.1	74	46
36	O	Houston N. G.	40	.80	2.0	2.22Ap	57	9	18.0	36	20
24	O	Kansas Nebr. Nat. Gas .	24	1.04	4.3	1.85Je	22	6	13.0	56	36
125	S	Lone Star Gas	43	1.80	4.2	2.41Je	4	6	17.8	75	43
88	S	Miss. River Fuel	35	1.60	4.6	2.19De	12	5	16.0	73	50
31	S	Montana Dakota Util. ...	31	1.20	3.9	1.95Je	10	5	15.9	62	30
29	O	Mountain Fuel Supply ..	27	1.20	4.4	1.82Je	3	4	14.8	66	53
94	S	Natl. Fuel Gas	23	1.20	5.2	1.74Je	D9	6	13.2	69	52
159	S	Northern Nat. Gas	31	1.40	4.5	2.15Je	26	7	14.4	65	32
43	S	Oklahoma Nat. Gas	29	1.24	4.3	2.19Je	13	5	13.2	57	34
137	S	Panhandle East. P. L. ..	44	1.80	4.1	3.30De	18	9	13.3	55	38
226	S	Peoples G. L. & Coke ..	66	2.60	4.0	4.33Je	10	8	15.2	60	43
33	O	Pioneer Natural Gas ...	25	.88	3.5	1.40De	27	9	17.9	63	41
122	S	Southern Nat. Gas	40	2.00	5.0	2.10Je	7	—	19.0	95	36
46	O	Southern Union Gas	24	1.12	4.7	1.50De	7	3	16.0	75	29
463	S	Tenn. Gas Trans.	22	1.10	5.0	1.29Je	28	17	17.1	85	26
296	O	Texas East. Trans.	30	1.40	4.7	2.47Je	24	4	12.1	57	21
116	S	Texas Gas Trans.	36	1.40	3.9	2.58Je	21	9	14.0	54	24

Annual Rev. (Mill.)		(Continued)	8/23/60 Price About	Dividend Rate	Approx. Yield	Recent Share Earns.	Per Cent Increase In Share Earn. Recent	5-yr. Aver.	Price-Earn. Ratio	Div. Pay-out	Approx. Common Stock Equity
147	O	Transcont. Gas P. L. ...	21	1.20(b)	5.7	1.18Je	2	6	17.8	102	20
354	S	United Gas Corp.	32	1.50	4.7	2.16Je	D8	2	14.8	70	41
		Averages			4.3%		13%	8%	15.6	66%	
		Retail Distributors									
34	S	Alabama Gas	32	$1.60	5.0%	$2.79Je	40%	1%	11.5	57%	35
57	O	Atlanta Gas Light	39	1.80	4.6	3.67My	48	6	10.7	49	39
3	O	Berkshire Gas	20	1.00	5.0	1.18My	D19	6	16.9	85	41
7	A	Bridgeport Gas	31	1.68	5.4	2.05Je	D22	5	15.1	82	48
6	O	Brockton-Taunton Gas ..	20	1.00	5.0	1.22De	D6	14	16.4	82	41
89	S	Brooklyn Union Gas ...	29	1.20	4.1	*1.78Je	* 9	*6	*16.3	67	42
45	O	Central Elec. & Gas	26	1.20	4.6	1.94Je	14	9	13.4	62	18
14	O	Cent. Indiana Gas	15	.80	5.3	.95Je	25	—	15.8	84	58
6	O	Chattanooga Gas	4½	—	—	.44My	30	—	10.2	—	44
16	O	Elizabethtown Gas	37	1.60	4.3	3.36Ap	21	11	11.0	48	79
77	O	Gas Service	37	1.72	4.6	2.87Jy	15	8	12.9	60	35
9	O	Hartford Gas	49	2.00	4.1	2.90Ma	8	—	17.0	69	51
3	O	Haverhill Gas	28	1.60	5.7	2.00Je	D6	12	14.0	80	53
21	O	Indiana Gas & Water ...	22	1.00(b)	4.5	1.63Je	10	5	13.5	61	46
58	S	Laclede Gas	24	1.05	4.4	1.63Je	45	8	14.7	64	38
7	O	Mich. Gas Utils.	15	.60	4.0	1.10Je	33	5	13.6	55	37
53	O	Minneapolis Gas	33	1.55	4.7	2.28Je	10	—	14.5	68	43
18	O	Miss. Valley Gas	23	1.20	5.2	1.93Ma	D14	—	11.9	62	37
6	O	Mobile Gas Service	26	1.10	4.2	1.46Je	19	4	17.8	75	38
8	O	New Haven Gas	39	2.00	5.1	3.24De	5	5	12.0	62	68
16	O	New Jersey Nat. Gas ..	24	.90	3.8	*1.60Je	*12	*12	*15.0	56	36
105	O	Northern Illinois Gas ..	41	1.20	2.9	2.12Je	21	14	19.3	57	42
10	O	North Penn Gas	12	.65	5.4	1.15Ma	31	10	10.4	57	60
20	O	Northwest Nat. Gas	23	.84	3.7	*1.60Je	*30	*11	*14.4	53	36
307	S	Pacific Lighting	51	2.40	4.7	3.16Je	22	2	16.1	76	41
12	O	Piedmont Nat. Gas	13	.50	3.8	.88Ma	10	—	14.8	57	27
2	O	Portland Gas Lt.	16	.75(m)	4.7	1.93De	D12	13	8.3	39	27
11	A	Providence Gas	11	.56	5.1	.65De	8	5	16.9	86	48
4	A	Rio Grande Valley Gas .	4	.16	4.0	.30Je	D8	7	13.3	53	46
5	O	So. Atlantic Gas	14	.80	5.7	.87De	D28	—	16.1	92	30
16	S	So. Jersey Gas	26	1.00	3.8	1.42Je	12	13	18.3	70	51
36	S	United Gas Improvement	53	2.40	4.5	3.41Je	—	10	15.6	70	49
63	S	Wash. Gas Light	51	2.40	4.7	4.18Je	13	3	12.2	57	39
18	O	Wash. Nat. Gas	26	1.00	3.8	1.62Je	33	20	16.0	62	38
11	O	Western Ky. Gas	20	.70	3.5	1.95Je	42	15	10.3	36	36
		Averages			4.5%		13%	6%	14.2	65%	

FINANCIAL DATA ON TELEPHONE, WATER, AND TRANSIT STOCKS

Annual Rev. (Mill.)			8/23/60 Price About	Dividend Rate	Approx. Yield	Recent Share Earns.	Per Cent Increase In Share Earn. Recent	5-yr. Aver.	Price-Earn. Ratio	Div. Pay-out	Approx. Common Stock Equity
		Communications									
$6,771	S	American T.&T. (Cons.)	93	$3.30	3.6%	†$5.36My	8%	4%	†17.4	62%	64
377	A	Bell Tel. of Canada	48	2.20	4.6	2.39De	12	—	20.1	92	62
51	O	Cin. & Sub. Bell Tel. ...	95	4.50	4.7	5.57De	8	2	17.1	81	77
288	A	Mountain Sts. T.&T. ...	24	.90	3.8	1.29My	15	7	18.6	70	59
380	A	New Eng. T.&T.	37	1.72	4.6	2.28Je	5	7	16.2	75	59
1,040	S	Pacific T.&T.	29	1.14	3.9	1.39My	7	6	20.9	82	57
128	O	So. New Eng. Tel.	46	2.20	4.8	2.51De	D3	5	18.3	88	65
		Averages			4.3%		7%	4%	18.4	78%	
		Independents									
7	O	Anglo-Canadian Tel.	39	$1.20	3.1%	$3.47Je	10%	21%	11.2	35%	44
45	O	British Col. Tel.	47	2.20	4.7	3.08Ma	90	—	15.3	71	28

Annual Rev. (Mill.)		(Continued)	8/23/60 Price About	Dividend Rate	Approx. Yield	Recent Share Earns.	Per Cent Increase In Share Earn. Recent	5-yr. Aver.	Price-Earn. Ratio	Div. Pay-out	Approx. Common Stock Equity
4	O	Calif. Inter. Tel.	13	.70	5.4	.49Je	D50	NC	26.5	143	24
25	O	Calif. Water & Tel.	29	1.36	4.7	1.84Je	D1	5	15.8	74	36
22	O	Central Tel.	22	.88(b)	4.0	1.60Je	6	—	13.8	55	33
5	O	Commonwealth Tel.	22	.90	4.1	1.47De	9	8	15.0	61	35
5	O	Florida Tel.	25	1.00	4.0	1.32De	32	4	18.9	76	40
1,081	S	General Tel. & Elec.	30	.76	2.5	†1.10Je	—	10	†27.3	69	43
23	O	Hawaiian Telephone	21	1.00	4.8	†1.37Jy	8	4	†15.3	73	45
8	O	Inter-Mountain Tel.	16	.80	5.0	.77De	D15	—	20.8	104	53
9	A	Puerto Rico Telephone	53	1.80	3.4	1.93De	D1	—	27.5	93	42
26	S	Rochester Tel.	24	1.00	4.2	1.48Je	D7	5	16.2	67	36
12	O	Southwestern St. Tel.	25	1.20	4.8	1.60Je	2	3	15.6	75	42
13	O	Tel. Service of Ohio	29	.35(q)	1.2	1.31Je	40	8	22.1	27	32
42	O	United Utilities	46	1.45	3.2	1.95De	19	14	23.6	74	39
19	O	West Coast Tel.	28	1.20	4.3	1.90Je	21	5	14.7	63	37
276	S	Western Union	48	1.40	2.9	2.59De	31	15	18.5	54	87
		Averages			3.9%		11%	7%	18.7	68%	
		Water Companies									
		Holding Companies									
48	S	American Water Works	21	$ .80	3.8%	$1.24Je	5%	7%	16.9	65%	19
		Operating Companies									
5	O	Bridgeport Hydraulic	37	$1.70	4.6%	$1.86De	6%	5%	19.9	91%	53
17	O	Calif. Water Service	27	1.20	4.4	1.58Jy	D9	6	17.1	76	37
5	O	Elizabethtown Water	26	1.20	4.6	2.20De	17	—	11.8	55	60
12	S	Hackensack Water	53	2.40	4.5	*4.36De	*32	* 6	*12.2	55	35
10	O	Indianapolis Water	26	1.20(s)	4.6	1.66Ma	25	5	15.7	72	34
6	O	Jamaica Water	41	2.20	5.4	3.12Je	D4	17	13.1	71	28
5	O	New Haven Water	67	3.40	5.1	2.91De	D12	—	23.0	117	55
2	O	Ohio Water Service	28	1.50(b)	5.4	1.61Je	D9	—	17.4	93	33
11	O	Phila. & Sub. Water	57	1.80(s)	3.2	3.29Ma	31	5	17.6	49	29
3	O	Plainfield Un. Water	20	1.10	5.5	2.31De	44	12	8.7	43	66
5	O	San Jose Water	39	1.30	3.3	2.22Je	D2	10	17.6	59	41
11	O	Scranton-Springbrook	26	1.20	4.6	1.78Ma	6	6	14.6	67	29
7	O	South. Calif. Water	19	1.00	5.3	1.38Je	15	8	13.8	72	36
4	O	Southern Gas & Water	23	.80(d)	3.5	1.81Ma	30	5	12.7	44	19
		Averages			4.6%		12%	6%	15.4	69%	
		Transit Companies									
21	O	Baltimore Transit	7	—	—	$1.02De	72%	11%	6.9	—	45
12	O	Cincinnati Transit	7	$ .30	4.3%	.91De	193	—	7.7	33%	56
66	S	Fifth Ave. Line	19	1.00(t)	5.3	.23De	—	—	—	—	65
322	S	Greyhound Corp.	24	1.00(a)	4.2	1.81De	D5	7	13.3	55	62
26	S	Nat. City Lines	26	2.00	7.7	2.22De	33	—	11.7	90	92
13	O	Niagara Frontier Trans.	13	.60	4.6	.76De	—	—	17.1	79	67
20	A	Pittsburgh Rys.	11	.25	2.3	—	—	—	—	—	90
6	O	Rochester Transit	7	.40	5.7	1.08De	26	—	6.5	37	100
21	O	St. Louis P. S.	10	.80	8.0	.77De	13	—	13.0	104	93
13	S	Twin City R. T.	10	—	—	.59De	146	—	17.0	—	65
20	O	United Transit	6	.70	11.7	.89De	18	2	6.7	79	54
		Averages			6.0%		52%	2%	11.1	68%	

A—American Stock Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. *Deferred taxes resulting from liberalized depreciation are not normalized. If normalized, the price-earnings ratio would be higher, and the rate of increase in share earnings would be smaller. †On average shares. D—Decrease. (a) Also 10 per cent stock dividend October 24, 1960. (b) Also 30 per cent stock dividend December, 1959, 2 per cent stock dividend September 30, 1960. (d) Also 1 per cent stock dividend quarterly. (e) Also 3 per cent stock dividend January 7, 1960. (m) Also 10 per cent stock dividend January 15, 1960. (q) Also 3 per cent stock dividend December 31, 1959. (r) Also 40 per cent stock dividend June 13, 1960. (s) Also 10 per cent stock dividend March 31, 1960. (t) Paid to date. NC—Not comparable.

What Others Think

Developments in Water Desalting

A NUMBER of newspapers have recently turned their attention to the problems of water shortages and, more specifically, to the various programs now under study which would convert nonusable water to a potable product. Where we are in this country, with respect to various desalting projects, has been briefly reported in a roundup article by Robert Keatley in the August 11th issue of *The Wall Street Journal.*

In Freeport, Texas, starting next summer, one million gallons of water a day will be pumped from the Gulf of Mexico into the water system after being converted into fresh, potable water. The Freeport desalting plant is one of many that the federal government is subsidizing in its quest to find the best and most economical method of extracting salt from water.

A number of companies, Keatley says, are struggling with the problem of salt water conversion, ranging all the way from Bethlehem Steel to Ionics, Inc. An official of Westinghouse Electric Corporation, one of the concerns working on conversion equipment, declared that "In the next five or ten years, some areas are going to have to build conversion plants despite their cost if they want to have enough drinking water." Keatley tells us that

Water shortages are already a problem for many cities. One utility association expects more than 1,000 communities to ration water this year, while another claims 20 per cent of the nation's 18,000 municipal water systems have supplies too skimpy to meet dry-year demands. Shortages in recent years have had diverse results. They have led Dallas residents to line up to buy pure water at 50 cents a gallon, inspired an Orange, New Jersey, ordinance providing a fine for a leaky faucet, and induced Jamaica, New York, to assign inspectors to patrol city streets looking for illegal lawn watering.

ACCORDING to Keatley, government experts claim that by 1980 the gap between the amount of water available and the amount needed will be such that many new sources of water must be tapped to meet the demand. They report that shortages will be greater in some areas, such as the arid Southwest and thickly populated mid-Atlantic states. He states as follows:

> The prospect of a steady climb in demand for water from both individual and industrial users is stirring the current interest in utilizing salt water,

which is available over a large part of the country. Oceans lap at the borders of 23 states, with 65 per cent of the nation's industry and 55 per cent of its population, water researchers note. Also, there are untapped pools of brackish water available underground in many areas.

Keatley said that both government spending and private research on ways to convert water from these sources into usable form have been steadily rising. Today there are about 100 research centers and private companies spending up to $50 million annually on water-conversion research.

Some of the companies in the equipment field such as Ionics, Inc., specialize in small conversion plants. Ionics has sold about 40 such plants around the world. But other companies now getting into the business have their eyes focused on large municipal plants. Some of these are Blaw-Knox Company, Fairbanks Whitney Corporation, General Electric Company, and Food Machinery & Chemical Corporation.

THE matter of cost, the *Journal* article explains, is the key to the future of the industry. According to American Water Works Association figures, most cities now pay from 10 cents to 80 cents a thousand gallons for their water with a typical mid-Atlantic area town now paying about 40 cents. The lowest proven desalting cost for sea water is found on the Caribbean oil refinery island of Aruba where a 2.7 million gallons a day plant supplies water at a cost of $1.75 a thousand gallons. However, it is believed that newer plants, such as that planned for Freeport, Texas, will be able to convert salt water to fresh at a cost of about $1 for 1,000 gallons.

The Blaw-Knox freezing process is estimated to be able to convert salt water at a cost of 50 cents a thousand gallons. Reports the *Journal:*

> A wide variety of simple-sounding schemes have been devised to separate salt from water. Most are based on two facts long familiar to high school physics students: Boiling salt water gives off fresh-water vapor, which can be condensed; and freezing salt water forms pure ice crystals, which can then be melted to obtain fresh water.

The distillation process is envisioned by Professor Everett Howe, director of the University of California's $500,000-a-year conversion research program, as the most important conversion method for the near future. He believes water converted with this process will cost somewhat less than $1 per thousand gallons. Partisans of freezing methods do not agree with the professor. They believe they can do better.

BLAW-KNOX is one company which expects to produce potable fresh water from salt for around 50 cents a thousand gallons. Another, Fairbanks Whitney, boasts it can convert salt to fresh water for 40 cents a thousand gallons or even less. This company hopes that a contract for construction of a desalting plant in the United States will be signed before the end of the year so it can demonstrate what it can do.

As to government research, author Keatley reports that conversion facilities are to be built in San Diego, Webster, Roswell, and one eastern city, as well as Freeport, Texas. Each plant will use a different process. Out of it should emerge operating data that will enable local water officials to decide what type of plant they

"MY PUSH-BUTTON KITCHEN JUST PUSHED ME BACK!"

should build and what it will cost to produce salt-free water.

America and Water Use

THE *Providence Journal,* in an editorial on August 17th, has noted that our nation is the leader in water consumption—nearly 150 gallons per day for each person. Of course not all of this is used for washing and drinking. Huge amounts do such things as wash the family car, water the lawn, and fill the swimming pools of the nation. Industry, too, the editorial points out, is a huge consumer. An interesting statistical note was the fact that a quarter of a million gallons of water is needed to produce one ton of rayon.

It was pointed out that distillation plants for the conversion of sea water have been in operation for many years. All of the larger ships customarily convert their own fresh water. However, in all such plants the hitch arises over the cost of these methods when they are applied to large quantities of water.

A brief survey of various experiments

now under way in diverse parts of the world was contained in the editorial. The problem is very real. However, the editorial expresses confidence that a method will be found which will produce volumes of water at a reasonable cost. The article ended on a note of optimism, stating:

> We would be in a bad way indeed if we reached 1980 and discovered there wasn't enough fresh water to go around. But the prospect isn't so black. Chances are that the problem will be licked, we'll go right on being lavish in our use of water, and plenty of fresh water will be available in 1980 and far beyond.

JANETTA S. RIDGELY of the Baltimore *Sun* also authored an article on water conversion during August. She stated that the Baltimore water system alone uses some 200 million gallons of water a day, 40 per cent of which is consumed by industrial and business operations. Baltimore, however, is fortunate in that its geographical situation assures a good supply of water for many years ahead.

All of these articles make it clear that as the population increases, industry expands, and living standards go up, the amount and demand for water also increase.

The Baltimore *Sun* spotlights a point that is often neglected when water conversion is being discussed. This article notes that natural watersheds are being deforested, rivers are being polluted, and natural sources of underground water are drying up from overuse. A number of authorities have pointed out that this nation is not making adequate use of the water that does exist and that a considerable amount of pressure could be taken off the experimental inquiries into salt-water conversion if existing supplies were used with wisdom. This maximum use of existing water does not rule out the need for continued experimentation, nor does it downgrade the importance of finding an economically feasible method of salt-water conversion. Maximum use of existing water would, however, give a period of grace during which these desalting processes could be developed and tested.

THE Ridgely article notes that some communities are now using converted water but that the price is high. However, the article observes that when no water is available there is little quarrel over price. It seems clear that a good bit of our future water will come from conversion plants, and the article states:

> Within twenty years many densely populated parts of the United States, even in the temperate region, may have to run out of new water sources. They may have enough for domestic use, but will need more for industry. They will have to turn to the sea and brackish lakes and springs for water, just as the desert areas are now turning that way. What is now a matter for a few scattered communities will be a way of life.

In conclusion the article notes that fresh water is the most precious mineral on earth and that almost no part of the world has enough of this commodity—and the need is growing all the time. The water problem is critical in this nation. However, development of an economically feasible system for converting salt or brackish water to the fresh product will have its greatest impact on such arid areas as Israel. We are obviously now in the experimental and developmental stage. The next few years should provide many answers to questions that now

plague the scientists and keep water-conversion costs high. Most authorities, however, hold out real hope that the problems can be licked and that a practical method of water conversion, while not "just around the corner," is in the books.

Some Cogent Thoughts on Area Development

WHAT is a true area development program and why should an electric utility take the leadership in developing such a program? What rewards should a utility expect for its expenditure of time and effort? Harllee Branch, Jr., president of The Southern Company, presented some interesting answers to these questions as well as other aspects of area development in an article that appeared in the fourteenth annual public utility survey issue of *Investment Dealers' Digest* in June.

His first thought on the subject was that a utility's approach to area development should be comprehensive enough to embrace all facets of community life and yet sufficiently diversified in purpose and content to interest all groups of citizens. He admitted that the objective of some utilities to attract new industries was admirable. However, Branch pointed out that industrial development alone is too limited in its benefits to the community to justify sponsorship by a utility company. He said a utility business must be concerned with all groups of citizens, and added:

> . . . Similarly, an area development program should not be restricted to farm interests alone, or business interests alone, or to the interests of labor, or to any one group to the exclusion of the rest.
>
> This does not mean that every aspect of a community development program must be universal in its appeal or that all phases of it must be undertaken simultaneously. On the contrary, well-conceived, effective programs usually are made up of many parts, and require years of work before the total objectives can be achieved. . . .

THE president of The Southern Company said he realized that electric utility companies seeking to promote the advancement of their service areas must justify such expenditures to their stockholders and directors, and, in some cases, to public regulatory agencies as well. He said this often results in the temptation for utilities to confine their energies and expenditures to industrial and economic promotions which can be readily justified on the basis of direct financial returns. Mr. Branch continued:

> But this is only the easy way, not the best way, and in the long run not the most appealing to either stockholders or regulators.
>
> While industrial development is a desirable undertaking it should not be made an end in itself. The purpose should be not only to increase the number of industrial jobs but to improve the educational, cultural, and recreational opportunities and to heighten the sense of civic and political responsibility of the citizenry as a whole.

Branch called attention to the environmental aspects of a community. The kind of place in which a person lives is just as important as the chance to make a living. The kind of schools, churches, libraries, hospitals, and sources of entertainment are values that must be con-

sidered. And, Branch insisted, they can be effectively promoted by private enterprise in area development programs sponsored by utilities and other nongovernmental groups.

ACTUALLY, the kind of community has a bearing on whether new industries will consider moving there, Branch declared. He stated:

> An adequate community program should be directed toward utilizing the particular human and other resources possessed by the region. Every section has its own natural endowments and these should be developed as fully as possible. . . . Area development programs . . . should be carefully tailored to fit the human talents and the physical resources of the particular region, thus promoting diversity of production and at the same time preserving the sectional customs and habits which are so priceless an ingredient of American life.

Branch said he did not agree that an area should never change in its industrial or commercial aspects, nor that its rural environs should not be modified. But he felt a satisfactory balance should be striven for among industry, agriculture, wholesale and retail trade. In commenting on what returns an electric utility can reasonably expect from its area development efforts, Branch had this to say:

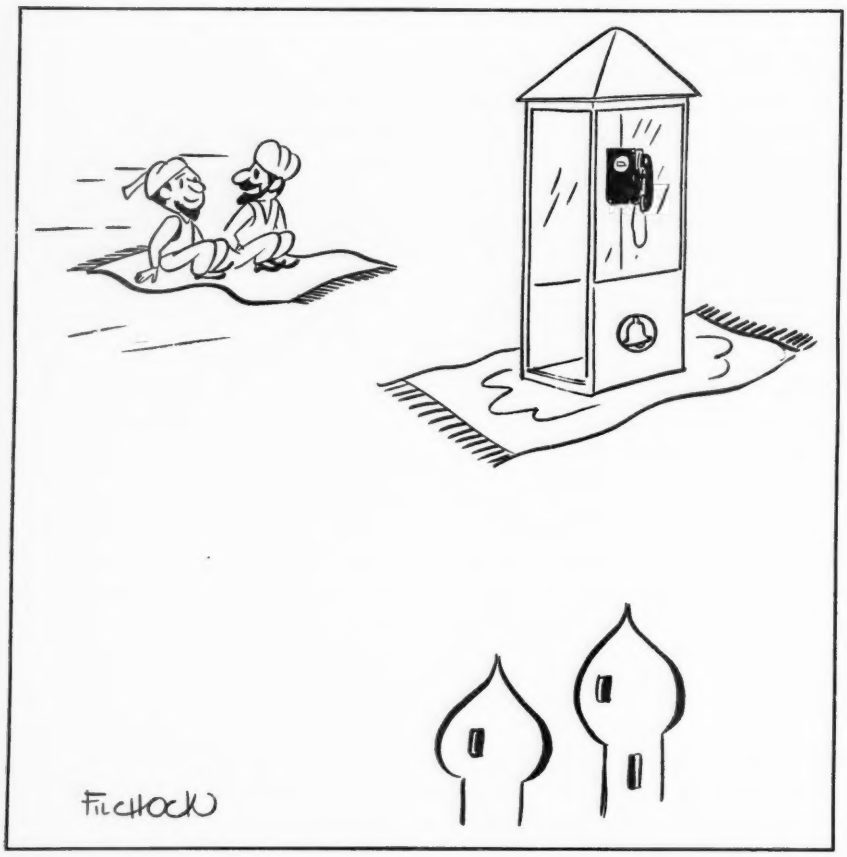
> . . . Strictly speaking, an electric utility exists to supply a specific service; to furnish a form of energy to home, farm, offices, and factories. It is not intended to be a social agency or an uplift society.
>
> But the fact is that an electric utility can sell its service only to customers who can use it to advantage and are able to pay for it.

THE opportunity to win public recognition, support, and friendship that come from a really good program of area development is the reward that comes to utilities, Branch stated. "We hear a great deal of talk these days about creating a favorable 'corporate image.' I don't know of a better image a public utility can show to its customers and the public than that of an organization eager to lead, work, advise, and co-operate with all who have the betterment of the community at heart."

Causes of Regulatory Delay

WHAT the reasons are for regulatory delay in gas rate cases and what can be done to change the situation are questions, the answers to which were admirably discussed by Clarence H. Ross, senior partner in the firm of Ross, McGowan & O'Keefe, in the midyear issue of *Investment Dealers' Digest*. Ross, a member of the Chicago bar, has practiced extensively before the Federal Power Commission and in the courts of appeal with respect to regulatory matters. He was also (at the time) chairman of the Section of Public Utility Law of the American Bar Association. Many of his thoughts concerning the FPC, in its administration of the Natural Gas Act, apply to the delay of regulatory cases among other agencies as well.

There are two categories of causes of delays in gas cases handled by the FPC, Ross tells us. They are: (1) Bottlenecks caused by a shortage of qualified staff personnel, and (2) inherent delays in the



administrative process which are and, minus remedial legislation, will continue to be largely beyond the control of the commission.

Most of the work of the FPC, Ross said, is carried on expeditiously and without criticism from the participants or the public. But the length of time it takes to issue a final order is the agency's chief deficiency. Usually delays occur in certain contested certificate cases, pipeline rate cases, and in the whole area of determination of rates for independent producers. Ross stated:

Treating the rate regulation of independent producers as an independent category created by the decision of the U. S. Supreme Court in the famous Phillips case, the principal cause of delay in this area, in my opinion, rests with the decision in the City of Detroit case. In this case the commission had allowed field price for a pipeline's own produced gas as an element in the ultimate composition of rates. The court held that if the commission wished to abandon the conventional original cost basis for fixing rates, such abandonment must be justified on the record.

The court also said that the conventional original cost basis must continue "to be used, at least as a point of departure" and "as a basis of comparison" in fixing rates. The commission has interpreted this case as requiring, or at least justifying, reliance exclusively on original cost evidence in fixing rates for pipeline companies. . . .

Ross said he believes the commission provided an almost impossible task for itself by imposing the same formula for determination of rates of independent producers as it did in the "City of Detroit" pipeline rate case. And he asked, "What can be done to reduce delay in resolving independent producer rate cases?" Remedial legislative efforts have proved fruitless, Ross admits, so he believes that in the absence of positive action by Congress, the commission should adopt bolder and more realistic solutions at the risk of court disapproval. Only in this way, he feels, can the log jam of rate cases be broken.

Certificate Cases

CERTIFICATE cases in which there are a large number of interveners are the ones, Ross said, where long delays are frequent. Many of the claims of these active participants in the cases are of scant merit, but the commission permits them the same due process as those with valid and substantial objections. Also, representatives of competing fuel industries are accorded the right by the courts to intervene in certificate proceedings and given benefit of due process. Thus in large cases the sheer number of interveners and parties of interest preclude an expeditious determination of the proceedings. And often there is present the insidious angle of deliberate delaying tactics by some of the interveners and others.

Speeding up Cases

IN certificate cases much can be accomplished if authority to grant temporary authorizations for new pipeline service pending full-scale hearing should be broadened by Congress. Ross pointed out that the applicant would have to risk construction pending final decision, but where the opposition sought a stay of the commission's order in the U. S. court of appeals and was rejected, going ahead with building the pipeline would be pretty safe. "This procedure would break the log jam in certificate cases as no opposition will be interposed in the later full-scale hearing merely for delay or for inconsequential reasons."

Congress might also give the commission greater power to eliminate delays caused by procedural abuse under the guise of exercise of due process, Ross declared.

Pipeline Rate Cases

IN pipeline rate cases the pattern of procedure is fairly well-established, but the bottleneck is the commission's staff. This is to be expected for the staff must examine the often voluminous contentions made by the applicant for increased rates, as well as make studies at the principal office of the pipeline. These activities may well consume several months and use the abilities and energies of several men. Here the commission falls down simply because it does not have enough qualified personnel to keep up with the volume of work. Ross added:

. . . The result has been that many pipelines have as many as two or three rate cases pending, and the commission is some years behind in disposing of them. The commission has recently adopted the expedient of hearing the last rate case first and therein deter-

mining the issues raised in the previously pending cases. This procedure will be of some assistance in bringing the rate proceedings up to date though more examiners and staff are required.

Ross said that the best way to cope with the inadequacy of commission staff personnel is to provide larger budgets, although he did suggest that much could be accomplished if the present staff would simplify and condense its field examination techniques and requirements.

Remedial Progress

CONGRESSIONAL assistance for the FPC is realized as being imperative, Ross related. He said that the only legislative proposal that might help the commission's case delay is Senate Bill 3069, which was introduced by Senator Magnuson (Democrat, Washington) and would authorize the FPC to delegate any portion of its functions under the act to "an individual commissioner or commissioners or to one or more officers or employees of the commission." The only exceptions to the foregoing would be the authority with respect to applications for rehearings and the functions of hearing examiners.

Remedial steps towards betterment of regulatory agencies are being taken by Chairman Oren Harris of the Subcommittee on Legislative Oversight of the House Committee on Interstate and Foreign Commerce. His committee understands the problems involved and, upon his suggestion, an advisory council consisting of the chief counsel of each of the big six agencies (CAB, ICC, FCC, FPC, FTC, and SEC) has been organized. Ross continued:

> . . . It is expected that an outgrowth of this original advisory council may result in a new organization to be known as the Conference on Administrative Procedure, which will perform, in the administrative law field, the present functions in the judicial field which are performed by the Conference on Judicial Procedures. . . .

It is expected, Ross affirmed, that this conference would develop remedies for the frustrating delays which would then receive the attention and support of Congress. Other important remedial developments also are in prospect, he said, and for the first time the problem is receiving the attention of those groups which can provide relief.

How AT&T Views Its Rôle in the Economy Of the Nation

SPEAKING before the Georgia state chamber of commerce at its annual meeting earlier this year, Frederick R. Kappel, president of American Telephone and Telegraph Company, expressed the company's viewpoint on what it has accomplished and what it intends to accomplish in the future. He said he did not regard business profit as an end in itself. Rather, he said, the purposes of prosperity were more his concern, and the strength that profit gives a business to accept big responsibilities and to rise to meet them.

Stated Kappel:

> . . . We are in business to give you the most useful, complete, and progressive

communication service you could ever dream of, and, if possible, something better than that. . . . my business has worked for eighty years or more toward a rather difficult goal. This was to enable anyone to talk with anyone else, quickly, easily, and at low cost. Today this goal has been largely realized. . . .

I do not at all mean that we have come to the end of the road on this. Of course we have not. Even now we are building a new technology that will do the job better in the future. Today for example we cross oceans by cable—tomorrow we may be talking around the world by satellites.

As to the future, Kappel said his company was aiming at giving its customers maximum possible choice in the kind of service, in the type of telephone instrument, and system. And someday, he said, you may have your choice between just talking with the person at the other end of the line, or talking with him and seeing him at the same time.

He said AT&T was thinking in competitive terms today because there were many forms of communications service that compete with the Bell system. Therefore, the company's goal will be to give the public "something better than the best you can conceive of." He said the important underlying idea of superlative standards, that top quality is essential, should dominate the Bell system. "The future depends on the quality of our performance as doers," AT&T President Kappel stated.

He said he believed that the future also hinges on the quality of our attitude as citizens; the quality of the government we create by our thinking, by our political action, and by our votes. That is why, Kappel stated,

I am so deeply concerned, in my own business, to encourage thoughtful interest and participation by telephone people in public affairs. The quality of our performance as a business is just bound to be deeply influenced by the character and quality of the myriad laws and regulations that affect our operations and the lives of our employees. . . . Moreover, it is not alone those particular laws and regulations that apply specifically to the telephone business that are influential—it is the whole structure and trend of national policy. In this circumstance, I think we *must* call to the attention of the Bell system people the issues that affect them, and stir them to think.

Mr. Kappel pointed out his company's desire to have its employees participate in public affairs had nothing partisan about it. How they voted was their business entirely.

The president of AT&T also said he believed our nation was on trial. He said we were on trial with respect to our ability to maintain leadership in science and technology in our efforts to explore space, as leaders in maintaining the defenses of the free world. Also, the speaker emphasized that our financial integrity is on trial.

Kappel warned that we should not relax our guard and assume that the dollar had been stabilized. We should get our national financial affairs in order, he said, by exercising self-control and discipline to manage our spending policies soundly. The alternative is to show a preference for the immediate advantages of spending and reveal that we are committed as a people always to take the easy, expedient political way.

The March of Events

Utility Lawyers Hear Procedural Delays Condemned

At the annual convention of the American Bar Association, recently held in Washington, D. C., the Section of Public Utility Law featured a panel discussion by the spokesmen of four major federal regulatory commissions. At the opening meeting of the section on August 29th, Horace P. Moulton, as committee chairman, presented the annual report of the Standing Committee regarding laws, decisions, and other developments during the past year. Then followed a discussion in which Whitney Gillilland, chairman of the Civil Aeronautics Board; Rosel H. Hyde, member of the Federal Communications Commission; Jerome K. Kuykendall, chairman of the Federal Power Commission; and John H. Winchell, chairman of the Interstate Commerce Commission, took part. All four of the regulatory spokesmen agreed that cases moved too slowly before these regulatory agencies, and it was pointed out that the practicing lawyers themselves are sometimes responsible for delays because of advantage taken of technicalities. A lively question period followed.

There was also blame placed on legislation which restricts procedures of the commissions. Commissioner Hyde noted, for example, that it sometimes takes two years for the FCC to write an opinion and that there are simply too many cases "where litigants have not survived the process." Gillilland, Kuykendall, and Winchell agreed with Hyde that regulatory agencies, which are trusted to decide substantive matters involving millions of dollars, can surely be given some discretion in procedural matters as well.

Chairman Kuykendall referred to an experiment of the FPC with a new plan for dispensing with initial arguments at procedural hearings to the use of so-called "canned testimony." Chairman Winchell pointed out that not only the Senate and the House but the ICC itself and the practitioners are working on plans for stepping up procedures before that agency.

Alfred P. Ramsey of Baltimore was elected chairman of the section for the coming year to succeed Clarence H. Ross. Stephen H. Fletcher of New York was voted vice chairman, and Francis X. Welch of Washington, D. C., was re-elected secretary. Speeches and papers presented at the sessions of the Section of Public Utility Law will be reproduced, as in previous years, in a forthcoming issue of PUBLIC UTILITIES FORTNIGHTLY.

Connecticut

Gas Rate Increase Granted

BEGINNING September 1st customers of the Hartford Electric Light Company started paying more for gas. Residential customers had to pay 15 per cent more for regular service, 10.9 per cent more for kitchen-heating service, and 6.4 per cent for house-heating service. Commercial and industrial customers had to pay 6.2 per cent for regular service and 4.9 per cent for space- and water-heating service. The new rates approved by the utilities commission were designed to partially offset increases put into effect by the company's natural gas suppliers. These increases totaled $476,000 a year. Hartford Electric originally asked for a rate boost of $538,000 in more revenue, but the commission denied this request and asked the company to file a new request.

The increase finally authorized is calculated to give the company $405,000 a year in additional revenue. In approving the increase, the commission told Hartford Electric Light that it must be prepared to reimburse its customers if the suppliers' increased rates are lowered.

District of Columbia

Asks OK on Pipeline Plans

THE Washington Gas Light Company of the District of Columbia area has asked the Federal Power Commission for authority to build 16 miles of new natural gas pipeline in the Washington metropolitan area.

The company's proposed facilities would cost $3,830,000 and include 15.8 miles of line from Hybla Valley, near Alexandria, Virginia, across the Potomac river into Prince Georges county, Maryland. A company spokesman stated that the additional facilities are required to assure continuity of supply and to meet increasing demands for gas.

Kentucky

Hearing on Co-op Power Plant

A HEARING on an application by a rural electric co-operative for permission to build a power plant at Burnside, Kentucky, was held in August. The East Kentucky Rural Electric Co-operative Corporation had asked it be allowed to build what eventually will be an $80 million steam-electric generating plant.

The co-op now supplies electric power at wholesale to 16 Kentucky and Tennessee rural electric co-operatives. Opposition to the application has been raised by Kentucky Utilities Company which had indicated it would formally object to the undertaking on the grounds that ample electric power is available in the section involved and that therefore no additional generating plant is needed.

The new plant, which will be of 100,000-kilowatt capacity and will cost about $25 million initially, was supported at the

hearing by civic groups from Pulaski and McCreary counties. In the first day of the hearing the answer to the question, of what the long-range plans of the co-op are for selling power, still remained in doubt.

Louisiana

Phone Bills Higher

As a result of a New Orleans increased franchise tax on the Southern Bell Telephone & Telegraph Company, phone bills are now seven to 35 cents higher. A law passed by the 1960 legislature permits the company to pass on the increased tax to its customers.

The increase, which amounts to a 2 per cent hike, is shown on bills as a separate item. It is applied to the monthly rate and causes the 10 per cent federal tax to be a few cents higher. Residential service for a one-party line went from $5.60 to $5.71; two-party line, $4.45 up to $4.54; four-party line, $3.65 up to $3.72.

An ordinance passed by the city council authorized the mayor to sign an agreement with the telephone company under which the company agreed to a 5 per cent franchise tax for its use of city streets for phone equipment.

Maryland

Urge Cut in Rate Rise

It has been recommended by a public utility consultant that the proposed rate boost of Cumberland & Allegheny Gas Company be cut from $833,000 to $419,547. E. Edward McLean, serving as consultant to People's Counsel Rudolph A. Carrico in the case before the public service commission, also suggested limiting the company's return on its Maryland investment to 6.5 per cent.

C&A had asked for permission to raise its rates to 21,000 customers in Allegany and Garrett counties by $833,000 a year. It said this would provide a return of 6.8 per cent, although only $414,000 would be additional income, the rest going for taxes to the federal and state governments.

McLean disagreed with the method the company chose for determining its rate base, however. He said 50 per cent of the rate base, or that for the distribution plant, was figured on original cost. The other portion, or that for production and transmission, involved a combination of original costs and trended original costs. McLean arrived as his determination of the rate base solely on an original cost basis for all categories of facilities.

Massachusetts

Transit Strike Cripples Boston For One Day

A SUDDEN strike of transit workers in Boston over refusal of an employee of the Metropolitan Transit Authority to follow orders on overtime work, ended after one day of terrific rush-hour traffic jams.

Massachusetts state authorities acceded to strike demands of the AFL-CIO Street Railway and Motor Coach Employees Union. Governor Furcolo announced a settlement whereby the question of overtime work orders would be referred to arbitration over construction of a new contract. The strike, which involved 4,500 transit operators, caught Bostonians completely unprepared.

Nevada

Cities Paralyzed without Power

GIANT forest fires raging in High Sierra forests cut off electric power for 90,000 persons in the Reno area. Altogether 15 cities were affected in a 15,000-square-mile area. Cooks could not prepare meals on electric ranges, and refrigerators quit preserving food. Elevators would not function, gasoline for cars could not be pumped.

Auxiliary generators kept Reno's gambling centers going. The famed Lake Tahoe resort area, jammed with hundreds of vacationists, was reported in a state of semiparalysis. The fire burned out miles and miles of power lines.

Thousands of men manned the various fire lines.

Finally the fires were brought under control and Sierra Pacific Power Company's repairmen were able to restore electric service after a 28-hour outage.

New Jersey

Approves Gas-electric Rate Rise

THE public utilities commission of New Jersey last month authorized a $10,163,000 increase in revenue for the Public Service Electric & Gas Company. The company's original petition for a rate increase was made in April, 1958, and was for $36.4 million.

Under the new rates PSE&G will get about 3 per cent more in revenues. New gas and electric schedules have been filed by the company, public hearings on which will be held on September 19th. The commission estimated that Public Service would net a 6.25 per cent return on its investment under the new rates. Of the $10 million plus, however, the company would only retain $4,268,000 because the balance will have to go to pay new taxes resulting from the added revenue.

Commenting on the new rate authorization, PSE&G President Donald C. Luce said the company still faces the prospect of raising large sums of new money and it is problematical whether the increase in revenues will provide earnings adequate enough to meet requirements.

New York

Port of New York Authority Officials Cited

THE U. S. House of Representatives voted last month to cite three officials of the Port of New York Authority for contempt of Congress. The three refused to give a House Judiciary subcommittee Port Authority records which it sought for an investigation of the authority's activities. The officials maintained that Congress has no power to investigate the authority.

Up to now interstate compacts, which must be approved by Congress, have been considered by most courts to be state instrumentalities. There has never been a test of the congressional power to investigate the agencies. If the contempt citations are upheld by the courts, the way would be opened for broad congressional investigations of more than 100 agencies throughout the nation.

The three New York Port Authority officials acted on the advice of Governor Rockefeller of New York and Governor Meyner of New Jersey.

North Dakota

Generating Plant Discussed

INCLUDED in plans for building generating plants and transmission facilities over the next fifteen years, costing about $295 million, by the Midwest Electric Consumers Association were immediate plans for constructing a 200,000-kilowatt steam plant at Garrison dam in North Dakota. It would cost about $37 million and be financed by an REA loan, Ken Holum, executive secretary of the association, said.

The site was chosen because of adequate water, lignite coal, and transmission facilities that are available, he related.

Holum also reported that plans were in the making to build plants which would have 1,250,000 kilowatts of generating capacity and a related transmission system.

He believed co-operatives and municipalities of North and South Dakota, Minnesota, Iowa, Nebraska, Montana, Wyoming, and Colorado ultimately could be supplied by the system being proposed.

Pennsylvania

No Gas Rate Hike Now

THE Manufacturers Light & Heat Company of Pittsburgh ruled out an immediate rate increase in the wake of its three-year contract settlement with United Mine Workers District No. 50. Company President J. C. Peterson said the company will not have to seek a rate increase to offset the higher labor costs so long as two other unions still out on strike accept the same terms in regard to compensation as United Mine Workers.

However, both of the other unions up to now have refused to agree to the wage pattern set by the United Mine Workers.

The earlier demands of the unions would have compelled the company to go after a rate increase, Peterson related, had they been acceded to.

In Wheeling, West Virginia, the AFL-CIO Utility Workers of America also was reported to have turned down a settlement based on the UMW pattern.

Washington

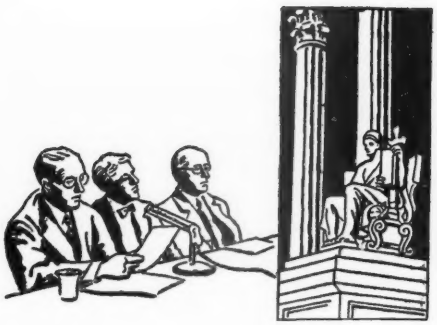
Big Oil and Gas Hunt

A MAJOR effort to find gas or oil in the Columbia basin was undertaken in August. At a spot 11 miles southwest of Odessa, Washington, C&D Minerals Company and Associates let contracts to sink a 5,000-foot test hole in the Black Rock area.

A new type of rotary drill was used in the work. The exploratory hole may be completed by the time this article gets into print—some time near the middle of September.

Geologists for many years have surmised that a major oil find underlies the exceptionally hard and thick basalt cap extending between the Bitterroot and Cascade mountain ranges. Other costly drilling efforts have failed, including a test drilling to a depth of more than 10,000 feet.

But geologists believe the Black Rock site has a hard rock layer of less than 5,000 feet. It will be the first time the new type air drill has been tried in the region.



Progress of Regulation

Trends and Topics

Accounting and Rate Case Treatment of Political Advertising Expense

THE decision by the Federal Power Commission on accounting classification of expenditures by electric companies found by the commission to be of a political nature (reviewed in this issue of the FORTNIGHTLY at page 419) adds one more chapter to the story of the contest between publicly owned and privately owned utilities. The problems presented involve accounting, rate making, and taxation. Even the right to make expenditures for political and lobbying purposes has sometimes been questioned. This question is discussed in PUBLIC UTILITIES FORTNIGHTLY, September 27, 1956, at page 469. The Supreme Court upheld Treasury regulations disallowing as income tax deductions payments for political purposes, such as the defeat of legislation which would injure a business (358 US 498).

Rulings on Accounting Question

The Federal Power Commission decision, briefly stated, reaches these conclusions: The commission has authority to prescribe accounting for expenditures for political advertising; advertisements to influence public opinion as to legislation are political; accounting requirements do not deprive companies of constitutional rights, such as free speech.

The Wisconsin commission reached similar conclusions in 1957. It had come to the attention of the commission that in a number of instances advertising and other items of expense relating to the question of public ownership of electric power facilities had been included in operating expense accounts of utilities. The commission concluded that these expenses "are not just and reasonable operating expenses" and, accordingly, are not includable in any operating expense accounts prescribed in the Uniform System of Accounts. The commission ordered that such items be included in Account 538, Miscellaneous Income Deductions. The commission said it wished to make it clear that in issuing this accounting order it was taking no position one way

or the other with respect to public ownership of power resources, nor attempting in any way to influence the opinion of any person in regard to this matter or to restrict the right of any person to express and to publicize his opinion. The order dealt solely with the manner of accounting for such costs (21 PUR3d 412).

Treatment in Rate Cases

Last year there were decisions on the allowance of this type of advertising expense in rate cases before the Michigan commission and the Missouri commission, and more recently the Oregon commissioner made a decision on the question. The Michigan commission, in the Consumers Power Company case (29 PUR3d 133), noted that the company had paid a share of the advertising program devoted in considerable measure to commentaries on private *versus* public power. These advertisements had appeared mainly in nationally circulated magazines, but, in addition, the company received certain mats for advertising use dealing with electric service generally as well as with the private-public power question. The company contended that all of the cost associated with this program was legitimately chargeable to electric operations. The commission's staff took the position that the expenditure was of questionable value to the ratepayer and that it should be eliminated from cost of service. The commission said it failed to see any benefit to customers of Consumers Power Company in this expenditure, and since the company had not demonstrated clearly what portion should be classified as a cost associated with the general advertising of electric service, the commission excluded the entire amount.

The Missouri commission, in the Union Electric Company rate case (29 PUR3d 254), also disallowed this expenditure as an operating expense. The commission said that it is a recognized fact that the principal purpose of advertising is to create good public relations and stimulate a demand for the service or product being advertised, and the commission was unable to find from the evidence offered that this particular form of advertising would do either.

The Oregon commissioner, in his recent decision on rates of Pacific Power & Light Company (34 PUR3d 36), disallowed as an operating expense the expenditure for the electric company's advertising program, which this utility had classified in its sales promotion account. The staff's view was that, except for a part of the expenditure, the advertising was of a political nature and directed to influence public opinion and, therefore, not a legitimate charge to operating expense. The commissioner agreed with this conclusion, stating that the advertisements were not directed toward promoting greater use of electric power or any other concept that would directly or indirectly benefit the company's consumers.

These decisions seem to stress the point that political advertising does not fall into the category of business promotion. Some expenditures to protect or further the interests of a utility company are, however, ordinarily allowed, such as the expense of rate proceedings, condemnation proceedings, and

defense against damage claims. There are advertisements and published notices incidental to such matters, the cost of which is allowable. It might be argued that advertising is not necessarily for the sole purpose of business promotion.

Review of Current Cases

Expenditures for Advertising Found to Be Political Must Be Reclassified

THE Federal Power Commission has ordered seventy-six companies to reclassify expenditures made during the calendar year 1957 as participants in the "Electric Companies Advertising Program," called the ECAP program. The program was sponsored by what are called in the advertisements "America's independent electric light and power companies." The commission's staff questioned the propriety of the classification for nine of the twenty-six advertisements involved, taking the position that they should be charged to Account 538, "Miscellaneous Income Deductions." The commission upheld the staff's contention as to eight of the nine questioned advertisements on the ground that they were political in nature.

What Constitutes Political Advertising

The commission took the position that the advertisements disclosed that they had as a basic ultimate purpose the influencing of public opinion as to the repeal of existing law; that they had not just an indirect relationship to political matters, but were directly political. In addition, said the commission, it was a fair inference that their ultimate purposes included the influencing of public opinion as to such matters as the election of public officers, proposed legislation, and influencing the decisions of public officers. Their purposes might also include the influencing of public opinion as to proposed ordinances, repeal of existing ordinances, and the approval or revocation of franchises.

The message conveyed by most of the advertisements, said the commission, was that federally supported electric systems and power dams are relieved of tax burdens which taxpayers generally must pay, resulting in favoritism to consumers who get electricity from such installations at cheaper rates, and in unfair discrimination against tax-paying utilities and taxpayers generally who do not receive such tax concessions. This idea was conveyed by the captions and illustrations of the advertisements.

The text of six of the advertisements called specific attention to present tax laws as the cause of this condition. The other two spoke of "tax favoritism" and "trick" taxes. Several of the advertisements included the suggestion that "something ought to be done" about this tax favoritism or that it should be "given critical study." The commission thought it reasonably apparent that these advertisements were aimed at influencing public opinion to secure legislation to correct claimed tax inequities. Thus, they were "political in character" and should be

classified as income deductions in Account 538 rather than Account 787, "Demonstration, Advertising, and Other Sales Expenses," or Account 801, "Miscellaneous General Expenses."

Authority of Commission

No merit was found in a contention that political matters are not the commission's concern under the Federal Power Act and that the commission lacks authority under the law to prescribe an accounting classification based on the political character of expenditures, and to enforce such an accounting requirement. The commission quoted the provision of § 301(a) of the Federal Power Act authorizing the commission to prescribe a system of accounts to be kept by licensees and public utilities and requiring such companies to keep accounts as the commission might by rules and regulations prescribe. The commission also referred to § 309, which authorizes the commission to perform acts and to prescribe, issue, and amend orders as it might find necessary or appropriate. The commission said these provisions were sufficiently broad to authorize a system of accounts which provides that political expenditures be charged to a particular account. Furthermore, said the commission, classification of these expenditures below the line as income deductions is necessary and appropriate for purposes of administering the act and is reasonable thereunder. Political expenditures fall into a peculiar category. They obviously have a "doubtful relationship to rendering utility service."

Relationship to Rate Making

The commission, in this proceeding, was dealing only with accounting and not rate making. It said that differences of opinion exist between companies and their customers, between management and the ratepayer, as to matters which are politically controversial. Classification of political expenditures to operating accounts might seem to imply that they must in due course be paid by the ratepayer, and such an implication would be unwarranted.

Of course, the question of whether the ratepayer or the shareholder shall ultimately pay these particular expenses must "await rate proceedings under the act," for an accounting classification matter of this kind "does not involve determining the just and reasonable rates."

The commission said that no consequential interference with management could result from these accounting classification proceedings, but only from rate proceedings under the act; and there was no merit in a claim that the proceedings deprived the companies of property and other rights without due process.

Evidence As to Nature of Expenditures

An argument that evidence proffered by the companies substantially supported classifying their questioned expenditures to an operating expense account as ordinary business expenditures necessary to protect and promote their businesses in the face of governmental competition was held to be devoid of merit. This evidence consisted of proposed testimony of witnesses, including accountants and members of accounting firms, industrialists, former governmental officials and members of the armed forces, educators specializing in accounting and economics and writers on these subjects, executives in utility corporations and advertising firms, and others alleged to be experts on the matters involved in these proceedings. Numerous exhibits were also offered. The commission ruled on proffered evidence last year (29 PUR3d 209).

Summarized briefly, said the commission, this evidence was to the effect that the expenditures were normal and ordinary business outlays for the purpose of meeting competition from electric systems owned or subsidized by the government, and that the companies were compelled by business necessity to make these expenditures in order to hold and benefit existing customers, attract new customers, and maintain company good will and financial integrity. There was some testimony explicitly that the advertisements were "nonpolitical." The evidence, according to the companies, showed that the advertisements were not intended to affect or influence the election or defeat of any candidate for office, to advocate or oppose the enactment or repeal of legislation, or in any other way to accomplish a political purpose and thus establish the nonpolitical character of advertisements.

The commission said, however, that the essentially political character of the advertisements was conclusively established by the advertisements themselves and, assuming arguendo, that the evidence showed that the expenditures had some other additional or subsidiary aspect or purpose, such as meeting government competition, and did not detract from their fundamentally political character.

No Procedural Error

The commission also overruled arguments as to asserted procedural and other errors involving the promulgation and application of Accounting Interpretation E-110, which they contended the commission never formally approved or adopted but which was issued in 1945 by the National Association of Railroad and Utilities Commissioners. They argued that this interpretation had never been promulgated as a rule or regulation and had never been published in the *Federal Register* as required by § 3 of the Administrative Procedure Act.

The commission rejected these arguments, with others as to procedural questions. It was said to be reasonably evident that the System of Accounts precluded the classification of political expenditures, including political advertising expenditures, to operating expense.

The commission also rejected an argument that it had erred in excluding most of the evidence they sought to adduce. (See Opinion No. 323, 29 PUR3d 209.) The totality of the evidence offered, said the commission, was not sufficient to establish that the advertisements were, in fact, other than political in character.

Constitutional Rights

Finally the commission rejected contentions that the classification of the questioned advertising expenditures below the line because of their political character would deprive the companies of constitutionally protected rights of due process of law and freedom of speech. The commission said that since mere classification of questioned expenditures below the line had no material adverse impact on the companies, it did not deter persons from freedom of speech by a prior restraint. The companies remain free to make their questioned expenditures without restraint or penalty, although they must account as required by the commission.

The commission added that, although the question was not involved, it appeared that even deduction of the questioned expenditures from income in future rate proceedings would not constitute an impermissible interference with freedom of speech, for freedom of speech is not absolute but is subject to reasonable limitations in the public interest. *Re Alabama Power Co. et al. Opinion No. 337, Docket No. E-6836, August 17, 1960.*

Furnishing of Bond Is Not Necessary to Effectiveness Of Proposed Gas Rate Increase

THE filing of a bond by a natural gas company is not a condition precedent to a proposed rate change becoming effective under the Natural Gas Act, a federal appeals court ruled. It is only a condition precedent to the actual collection of a rate increase pending final determination by the Federal Power Commission as to its reasonableness.

The Natural Gas Act provides that the commission may suspend a proposed new rate for five months pending hearing and decision, and that if the proceeding has not been concluded at the end of the suspension period the proposed rate shall, nevertheless, go into effect upon motion of the natural gas company. The statute also provides that the commission may require a company to furnish a bond conditioned to refund any amounts received by reason of an increase put into effect upon motion of the company.

Increase Collected Retroactively

The court's decision in this case was on the petition of Associated Oil & Gas Company seeking review of an order of the Federal Power Commission which denied the company the right to collect the difference between its old filed price for gas sales to a pipeline customer and a new, suspended rate during the time following the suspension period which ended in 1955 until the order approving the new rate was made in 1957. The commission had required the filing of a bond to secure the repayment of any excess amount collected. The company was unable, however, to give bond and did not collect the rate increase which it claimed was made effective upon its motion.

Remanding the case to the commission, the court directed that the company be permitted to collect the increase for the period in question. Where, as here, said the court, no attempt was made by the company to collect the increased rate, no bond was necessary. The failure to give the prescribed bond merely prevented Associated from collecting the increased rate pending final approval by the commission. It did not prevent the company from collecting the finally approved rate from the date it became effective upon motion.

It is noteworthy that another producer which filed an increase at the same time as Associated, but which furnished bond shortly after its increase was suspended, was permitted by the commission to collect the increase retroactively to the end of the suspension period. *Associated Oil & Gas Co. v. Federal Power Commission, No. 18142, July 12, 1960.*

"Rolled-in" and Incremental Methods Used in Allocating Gas Pipeline Expansion Costs

THE appeals court for the District of Columbia sustained the Federal Power Commission (29 PUR3d 1) in requiring Trunkline Gas Company to allocate pipeline expansion costs, for ratemaking purposes, by the "rolled-in" method in so far as the expansion will benefit all of the pipeline's customers, and by the incremental method as to a part of the expansion which will serve only a single customer.

Certificates issued by the commission authorized Trunkline to expand its gas purchases in the Gulf of Mexico and

transport this additional gas by means of increased pumping and partial looping of its main transmission line. Trunkline was authorized to construct a new line from Tuscola to the Michigan-Indiana border, where 135,000 Mcf per day of the increased gas supply will be sold to Consumers Power Company. Battle Creek Gas Company, the petitioner on appeal, intervened in the certificate proceeding, requesting an allocation of 4,000 Mcf per day during the five winter months of each heating season. The request was denied as economically unfeasible. However, during the pendency of the appeal, applications for further expansion of the facilities of Trunkline and its parent, Panhandle Eastern Pipe Line Company, were filed. Since this new expansion appeared to assure Battle Creek of the gas it sought, the court declined to give further consideration to this aspect of the appeal until the commission has had an opportunity to act on it.

System-wide Benefits

Trunkline contemplated a price to Consumers adequate to cover the entire expansion project on an incremental basis. The commission ruled, however, that all expansion costs up to Tuscola must be rolled-in with the other system-wide costs of Trunkline and be included in the cost basis used in fixing the rates for all of Trunkline's customers. The line from Tuscola to the Michigan-Indiana border was treated on an incremental cost basis and was charged solely to Consumers Power Company.

The court agreed with the commission that the expansion program up to Tuscola will form part of an integrated system and will benefit the entire system. The new gas will be commingled with the old, and both will be distributed together to all customers. Furthermore, this expansion is the first step in an overall expansion program intended eventually to meet the full requirements of all of Trunkline's customers. The facilities involved in this case will provide what was termed "cheap expansibility" to Trunkline, permitting future expansion to be made by relatively inexpensive increases in pumping facilities and partial looping. This expansion also opens up new gas reserves and new producing areas to meet the needs of Trunkline's customers.

Immediate Roll-in Approved

The court also affirmed the commission's decision to roll-in the new facilities and gas supplies immediately rather than when the full expansion program is completed, in view of the fact that the new gas will be fed directly into the existing pipeline and commingled with other gas delivered to all customers along the pipeline. As a further reason, it was noted that the increased capacity will be made available to all customers as soon as the necessary improvements can be approved and constructed. It appeared, therefore, that from the time these facilities and supplies are put into service they will inure to the benefit of the entire system. *Battle Creek Gas Co. v. Federal Power Commission, No. 15368, July 14, 1960.*

Refunding Bond Not Authorized by Natural Gas Act For New Rates for Industrial Resales

SECTION 4(e) of the Natural Gas Act grants the Federal Power Commission no authority to require a refunding bond for new rates for gas for resale for industrial use. Under this provision of the act, a bond may be required only with

respect to rates which have been suspended, and the suspension power is expressly withheld as to rates for gas for resale for industrial use.

Gas Service Company, a local distributor which purchases gas from Cities Service Gas Company, some of which it resells for industrial use only, petitioned for review of commission action allowing Cities Service to put into effect, without bond, rate increases for gas for resale for industrial use.

The court pointed out that its interpretation of § 4(e) is buttressed by the fact that the commission has consistently construed it as granting no power to require a bond before permitting a change in industrial rates to become effective, and by the further fact that the commission has unsuccessfully requested Congress to confer the power.

Constitutionality Argued

Petitioners argued that if § 4(e) does not empower the commission to require a refunding bond as a condition precedent to the effectiveness of newly filed industrial rates, it is unconstitutional because it deprives them of their property without due process of law.

The court observed that the petitioners were not contractually bound to purchase gas under the new industrial schedules filed by Cities Service. They may use stand-by facilities, and some other fuel if they find it cheaper than natural gas. Moreover, the statute does not require, but merely permits, that a bond be exacted even in regard to rates which are subject to refund procedure. The Constitution grants no right to the protection of a bond. Nor does § 4(e), as construed by the commission, unlawfully delegate to Cities Service any legislative authority to fix its own rates. Natural gas companies had that power before the passage of the Natural Gas Act, the court pointed out. The act neither conferred nor enlarged the power. *Gas Service Co. et al. v. Federal Power Commission et al. No. 15,401, July 21, 1960.*

Commission Rules on § 4(e) Power

In another proceeding, the Federal Power Commission rejected a contention that its power to suspend rate changes under § 4(e) is directed only to nonindustrial sales for resale while the power to require refunds extends to industrial sales for resale as well. The commission pointed out that it has consistently allowed rate schedules for sales for resale for industrial use only to become effective without bond or undertaking. *Re United Gas Pipe Line Co. Docket Nos. G-9547 et al. June 24, 1960.*

Direct Gas Sales Proposed by Pipeline Must Be Compensatory

THE Federal Power Commission asserted jurisdiction over the facilities of South Georgia Natural Gas Company used in a direct sale of gas to the city of Thomasville, Georgia. The company had applied for a disclaimer of commission jurisdiction or, if jurisdiction were asserted, for a certificate authorizing the direct sale. Certification was denied.

Thomasville has been a resale customer of South Georgia Natural since 1955. In 1957, the company began deliveries on an interruptible basis, under a filed rate schedule, for use in the city's power plant. Upon an increase in the filed rate from 32 to 36 cents, the city changed over to coal, and in order to recapture this business the company was obliged to under-

take a new and separate direct sale agreement at a reduced rate of 34.5 cents per Mcf.

Resale Service Safeguarded

South Georgia argued chiefly that its original certificate covered the direct sale, that the new contract merely changed the rate for the service, and that no further authority was needed for the change since, under § 1(b) of the Natural Gas Act, the commission has no jurisdiction to regulate direct sale rates.

Section 1(b) distinguishes between direct sales and sales for resale, the commission observed, but it does not explicitly forbid the commission to regulate direct sale rates. The commission is given jurisdiction over the transportation of gas for direct sales, but not over the direct sales themselves. The principal purpose of this limited grant is to enable the commission to prevent a pipeline from using its facilities for direct sales in circumstances which might impair its service to resale customers. While the commission cannot fix a specific rate for a direct sale in a § 4 proceeding, it has the responsibility under § 7 to require that a direct sale rate be compensatory, not subsidized by sales for resale.

In the absence of a showing that a proposed direct sale rate will recover the costs fairly allocable to the service, authorization must be denied.

Nor is the direct sale in this case the same service as South Georgia was originally authorized to conduct. Any change from resale to direct sale service requires new certificate authority irrespective of a superficial identity in specific terms of service before and after the change, said the commission. South Georgia should not have commenced the direct sale without a new certificate.

Interveners urged that direct sale rates must be nondiscriminatory as well as compensatory. The commission rejected this proposition since it would involve not merely setting a minimum but fixing a specific rate for each direct sale and would be beyond the jurisdictional limit of § 1(b). *Re South Georgia Nat. Gas Co. Docket No. G-17568, June 13, 1960.*

Settlement Proposal an Essential Factor in Gas Pipeline Service Abandonment

FOLLOWING the recent decision of the federal court of appeals for the District of Columbia setting aside a Federal Power Commission order authorizing Panhandle Eastern Pipe Line Company to abandon service of 127,000 Mcf per day to Michigan Consolidated Gas Company, Panhandle argued in a petition for rehearing that the court had no jurisdiction to review the commission's action in rejecting Michigan Consolidated's settlement proposal because it was not presented to the commission in a timely application for rehearing. The court denied a rehearing.

The proposal recommended that the 127,000 Mcf be made available to Panhandle during the winter months, and that the same annual volume be supplied to Michigan Consolidated during the summer months for storage and subsequent consumption during the following winter.

Actually, Michigan Consolidated had filed its settlement proposal five days beyond the 30-day period prescribed by § 19(a). However, under the commission's regulations any party may submit settlement proposals to the parties and the commission at any time. The court thought this regulation might be con-

strued to authorize the commission to consider such filings at any time "while the case is in its bosom."

Apparently the commission so construed it, for it rejected the settlement proposal, not because it was not included in a timely petition for rehearing, but on the ground that the offer was inconsistent with the commission's order and unacceptable to Panhandle. The commission itself merely questioned the court's "clear intrusion into the area of the commission's exclusive responsibility."

The court remained of the opinion that the commission erred in brushing aside the settlement proposal. The commission's files indicated that Panhandle's resale customers could not use all of the abandonment gas during the summer months and that Michigan Consolidated had fields in which it could store summer deliveries. The consideration of these matters at some point in the proceedings was indispensable to the validity of any public interest determination in support of total abandonment.

Where a regulatory agency ignores factors which are relevant to the public interest, the scope of judicial review is sufficiently broad to order their consideration. The court said that these limits are not to be confused with the narrower ones governing review of an agency's conclusions reached upon proper consideration of the relevant factors. *Michigan Consol. Gas Co. et al. v. Federal Power Commission, Nos. 14975, 14976 et al. July 11, 1960.*

Partial Allowance of Payment to Affiliate Upheld

THE New Jersey superior court has affirmed the commission's determination that Hackensack Water Company was entitled to a credit of only 55.6 per cent of the total operating charges of an out-of-state reservoir operated by a subsidiary, notwithstanding that the company had actually paid 95 per cent of the cost.

The company cited a contract with its subsidiary which obligated it to pay a minimum of 55.6 per cent and a maximum of 95 per cent of the total annual cost of operating the out-of-state reservoir, depending upon the percentage of water actually drawn from the reservoir by the company and the subsidiary. The court had previously remanded the case to the commission for further findings and reasons for its conclusion that the company should be allowed only 55.6 per cent of the operating cost.

In this latest decision, the commission reasoned that the basic decisive factor in determining the share of operating cost of the out-of-state reservoir allowable to Hackensack in connection with its rate application was the ultimate full optimum use rather than the present actual use of water by New Jersey and out-of-state consumers; *i. e.*, approximately 40 per cent and 60 per cent, respectively. The commission decided that fixed charges were more properly related to the overall capacity of the reservoir and the ultimate benefits which each party would receive from the facility than to present use. The court held that the evidence supported the commission's reasoned conclusions. *Re Hackensack Water Co. 161 A2d 293.*

Transit Company Gets Fare Increase Following Decline in Patronage

THE Minnesota commission authorized the Minneapolis Street Railway Company to raise its cash adult fare to 25 cents, and to sell four tokens for 90 cents. This will reduce the present operating ratio from 96.36 to 93.66 per cent and will result in a rate of return of 13.14 per cent.

Simultaneously with the Minneapolis order, the commission granted the same fare increase for The St. Paul City Railway Company and the Twin City Motor Bus Company. The combined operations will result in an overall operating ratio of 94.75 per cent and a rate of return on the properties of the three companies of 10.04 per cent.

An estimate of transit revenues of the Minneapolis Company for a pro forma year was based on percentage factors for passenger decline due to fare increase, strike, economic or "normal" decline, and actual decline as shown by company reports. An average passenger decline of 5.5 per cent was thus adopted. The commission rejected a company proposal to use a substantially higher per cent of decline experienced in only one month, following shortly after a strike, since it would not present a fair picture of decline for the pro forma year. Bus depreciation was figured on a 12-year life basis.

The order provided that in the purchase and sale of property used in industry operations, bids must be taken in the same manner as government agencies take bids, where the amount of the purchase or sale exceeds $500, with the right to reject any and all bids. In the case of purchases of major facilities the company may, upon commission approval, disregard the lower bid requirement. *Re Minneapolis Street R. Co. R.R.C.C. Order No. 1487-5, R.R.C.C. Docket No. 409, June 28, 1960.*

Distribution of Electricity by Private Club Not Submetering

THE appellate division of the New York supreme court has reversed a judgment dismissing a petition to review a commission order which directed an electric company to terminate service to a private club unless the club ceased distribution of electricity to members or qualified directly or through a subsidiary as an electric corporation. The utility's submetering tariff, which provided that service would not be supplied for resale or submetering to residential tenants or occupants, was held inapplicable to the club.

Members were charged a flat fee for all services furnished, including electric power. No profit had been made by the club when it furnished power to others. True, all the power passed through one meter, owned by the club, but it was for the use of the club and its members contained within the club property.

For the record, the court pointed out that the club could not be classified as an electric utility. *Merriewold Club, Inc. v. New York Pub. Service Commission, 201 NYS2d 364.*

Earnings-price Ratios Show Investor Appraisal of Risks Held Basic in Equity Return to Pipeline

IN an interim order procedure, the Federal Power Commission determined only the issue of rate of return to be allowed Southern Natural Gas Company upon its filing for a rate increase, and, pending decision of all of the other issues in a later, second phase of the proceeding, the commission authorized interim rates. The interim order procedure was proposed by the staff to prevent the full amount of Southern's proposed increased rates, based on a 7 per cent return, from being collected subject to refund, until disposition of all of the issues could be made.

Interim Order Procedure Is Lawful

The commission could find no legal obstacle to this procedure since Southern had received a full hearing on the issue of rate of return. It was contended, however, that the interim order procedure would be inequitable and unlawful unless it also finally disposed of the issues of cost allocation and rate design, which were deferred for determination in the second phase of the proceeding. It was alleged that there would be confiscation if the commission should finally decide these issues in such a way that Southern would have to make refunds in certain zones where its rates may be found to be too high but could not recover revenues retroactively in other zones where it may have charged less than the finally determined cost of service.

The commission thought this argument was speculative and founded on assumptions as to how the deferred issues would be decided. Even if all the issues were decided at one time, the same question of Southern's being made whole during the refund period could still arise. The risk does not arise because of the use of the interim order procedure and the prior determination of Southern's rate of return, said the commission; rather, it arises because of the methods of cost allocation and rate design used by Southern in its filing, and the possibility that the commission may prescribe the use of different methods. While the interim rate level would allow the determined rate of return, it would be based in all other respects on the methods and procedures employed by Southern in its rate filing, including its own allocation and rate design methods.

Cost of Capital

A rate of return of 6½ per cent on pipeline facilities was held to be reasonable, as against a claim of 7 per cent urged by the company. Seven per cent was allowed, however, on Southern's gas production facilities, for the purposes of the interim rates. This resulted in an overall rate of return of 6.52 per cent on total investment.

In determining Southern's cost of capital, the commission adopted the actual capitalization of approximately 64 per cent debt and 36 per cent equity, adjusted for imminent financing of short-term debt. The cost of debt capital was fixed at 4.45 per cent, as determined by both Southern and the staff.

The main controversy concerned the return allowance on common equity. Southern, opposing the commission's normal practice, urged that earnings-price ratios should not be relied on as a guide to the cost of equity capital because of the nature of the market since 1950. A calculation described as "implicit" cost of equity was presented by the company. The staff presented a study of earnings-price ratios for Southern and comparable com-

panies for a period of twenty years. An intervener suggested using dividend-price ratios adjusted for market pressure and pay-out ratio.

The commission adopted the earnings-price ratios approach, with an element of judgment and other factors, in determining the equity return allowance. The investor's appraisal of the risks inherent in the enterprise and the return he requires in the light of his appraisal are basic to a proper determination of the allowance, the commission indicated, noting that it has always looked to earnings-price ratios as an indication of such investor appraisal. The earnings-price data were interpreted as showing that Southern's position in the money market was improving in relation to the rest of the industry.

Among the factors considered in arriving at the return allowance of 10.18 per cent on common equity were Southern's sustained high level of earnings with conservative capitalization, its strong investor demand for stock, and the low risk element resulting from the minimum bill provisions in its rate schedules. Along with these minus factors, the commission pointed to some plus items such as Southern's maintaining a conservative capital structure without undue thinning of its equity. The public interest is best served by allowing a return on equity which encourages such conservative financial structures, it was noted. Also considered was the fact that Southern has a high proportion of industrial customers which entails a certain measure of risk by reason of the increasing cost of gas in the field as compared with the cost of competitive industrial fuels.

Other Approaches to Return Urged

In support of a 7 per cent rate of return, Southern also suggested a relative risk approach and a preservation-of-financial-integrity approach. The former relied on the earnings of a group of non-regulated enterprises not shown to be a representative indicator of the earning power of companies having risks commensurate with those of the pipeline industry. Under the financial integrity approach, Southern examined its fixed charge coverages, computed on a 6 per cent rate of return for the period 1950-58, for the purpose of showing the need for a 7 per cent rate of return if Southern is to maintain its bond ratings. Noting that Southern's actual earnings on total invested capital averaged 7.51 per cent for the 1950-58 period, the commission said there was no basis for the assumed 6 per cent return. Neither approach was considered persuasive. *Re Southern Nat. Gas Co. Docket No. G-20509, July 8, 1960.*

Severance of Gas Properties from Holding Company System Authorized

THE Securities and Exchange Commission approved a divestment plan submitted by Eastern Utilities Associates (a holding company), Blackstone Valley Gas and Electric Company (an electric and gas utility subsidiary), and Valley Gas Company (a newly organized subsidiary of Blackstone), which was proposed as a means of complying with an earlier order issued under § 11(b)(1) of the Holding Company Act, directing the holding company to sever its relationship with the gas properties owned by Blackstone. The action constituted the initial step toward compliance and, according to the commission, was necessary to effec-

tuate the provisions of § 11(b) of the act as well as of the commission's order.

Stockholder Objections

A common stockholder of Blackstone argued that the order did not require Blackstone, the subsidiary, to take any action. He contended that the commission could not approve any action which required Blackstone to take any steps with respect to its properties and that the commission was limited to approval of only such action as the holding company itself might take. This stockholder suggested that the proper solution was to require the holding company to divest itself of its holdings of the common stock of Blackstone, thereby permitting the latter company to continue to operate as combination gas and electric company, but independently of the remainder of the holding company system.

The commission disagreed with this argument. It pointed out that the order stated that the holding company should sever its relationship with the gas properties owned by Blackstone by disposing, or causing the disposition, of its direct or indirect ownership or control of such properties. Since the holding company was ordered to cause the disposition of its indirect ownership or control of the gas properties, the holding company, as the owner of more than 99 per cent of the common stock of Blackstone, was clearly directed to cause the subsidiary to take such steps as would have the required result. The proposed plan would effectuate such a requirement, since after its consummation the holding company would cease to have any indirect ownership or control of the gas properties.

The commission also pointed out that the earlier order made it clear that it was only the existence of the gas properties of Blackstone that created any problem with respect to the application of the standards of § 11(b)(1) of the act to the holding company system. The commission had affirmatively found that the electric properties in the holding company system were operated as an integrated electric utility system within the purview of the act and were retainable under common control but that the gas properties owned by Blackstone, the only gas properties in the holding company system, were not retainable. To adopt the stockholder's interpretation, according to the commission, would have the effect of nullifying the earlier order.

Moreover, the suggested solution submitted by the stockholder would create serious problems. If Blackstone were severed from the system it would hold only 32 per cent of the outstanding common stock and virtually the same per cent of the other outstanding securities of an affiliate, Montaup, the principal source of its electric energy requirements, with approximately 68 per cent of the common stock and other securities being held by what would then be nonaffiliated interests.

As a consequence Blackstone would be required to operate, so far as its electric department was concerned, almost entirely as a transmission and distribution company with no assurance as to the continuation of its source of supply. In addition, in so far as the holding company system was concerned, a 32 per cent minority interest would be created with respect to the voting power in Montaup. This would be contrary to the standards of § 11(b)(2) of the act.

The stockholder argued further that the separation of the gas properties from the electric properties of Blackstone would result in a change in the corporate structure and existence of that company and that the commission was prohibited

from approving such action by the provisions of the last sentence of paragraph (2) of § 11(b) of the act. The commission did not feel compelled to determine whether the plan would cause such a change since, in addition to the fact that its divestment order had become final, it had been issued under paragraph (1) of § 11(b). This section does not contain the restriction to which the stockholder referred. The commission pointed out that the action which it was now taking in this case was the approval of a voluntary plan of compliance with the outstanding divestment order and that it was not requiring Blackstone to take any action.

Fairness of Plan

The plan provided for the transfer to a newly created subsidiary company, the gas properties of the combination electric and gas subsidiary, in exchange for first mortgage bonds, promissory notes, and all the common stock of the newly created subsidiary and the simultaneous sale of the first mortgage bonds and notes to nonaffiliated interests and a subsequent sale of the common stock to shareholders of the holding company and the minority shareholders of the combination subsidiary company. The commission decided that this was fair and equitable to the persons affected, since the securities to be received by the combination subsidiary company would have an aggregate book value equal to the net book value of the assets to be transferred to the new subsidiary and, upon the subsequent sale of such securities, the combination subsidiary company would obtain cash in an amount equal to the aggregate net book value of its assets to be transferred. *Re Valley Gas Co. et al. File No. 54-225, Release No. 14266, August 10, 1960.*

Other Recent Rulings

Telephone Rate of Return. Central Nebraska Telephone Company obtained the Nebraska commission's approval of a rate increase sufficient to afford a rate of return of 6.79 per cent on a net book value rate base. *Re Central Nebraska Teleph. Co. Application No. 22201, June 22, 1960.*

Competitive Carrier Application. The Colorado commission denied an application for call-and-demand carrier authority to transport commercial papers for banks where it appeared that a number of bus companies, presently furnishing an adequate though somewhat lower grade of service to the banks, required this head-end traffic in order to stay in business. *Re Bankers Dispatch Corp. Application No. 17623, Decision No. 54520, June 23, 1960.*

Private Carrier Permit. In granting a private motor carrier permit to haul a specified commodity, the Colorado commission pointed out that the fact that the advantages of private carrier operations do not accrue to the general public does not establish that such operations are not in the public interest. *Re Cheney et al. Application No. 17838-PP, Decision No. 54578, June 28, 1960.*

Water Extension Not Required. The New Jersey commission dismissed an application to require the Monmouth Consolidated Water Company to extend its lines to a proposed industrial park, even though the extension would not materially affect the utility's rate of return and the developer offered to pay a part of the cost, since the area was still in its initial phase

of development and there were not a reasonable number of prospective customers to warrant an extension. *Mid-Monmouth Industrial Park v. Monmouth Consol. Water Co. Docket No. 602-139, June 30, 1960.*

Jurisdiction over Contract Case. A suit to enforce the terms of a contract between a natural gas producer and a customer, as allegedly modified by the acts and conduct of the parties, is not one arising under federal laws, within the meaning of the jurisdictional statutes, a federal district court ruled. *Pan American Petroleum Corp. v. Cities Service Gas Co. 182 F Supp 439.*

International Rate Jurisdiction. The carriage of freight by rail on a proportional rate from a point of origin in Canada to a border point within the United States for the purpose of interchange is not such transportation within the United States as will give the Interstate Commerce Commission jurisdicion over the foreign factor of the combination rate, a federal district court held. *Central Vermont Railway, Inc. et al. v. United States et al. 182 F Supp 516.*

Proof of Inadequate Service. In sustaining the Interstate Commerce Commission's denial of a motor carrier certificate, the federal district court pointed out that inadequacy of existing facilities is a basic ingredient in the determination of public necessity for a proposed service. *Filson v. Interstate Commerce Commission, 182 F Supp 675.*

Exclusive Authority to Serve. The Kentucky appeals court held that a water district did not have exclusive authority to serve an area within five miles of a city's limits where the statute did not specify exclusive authority but, on the contrary, gave the city authority to serve such area. *City of Cold Spring v. Campbell County Water Dist. 334 SW2d 269.*

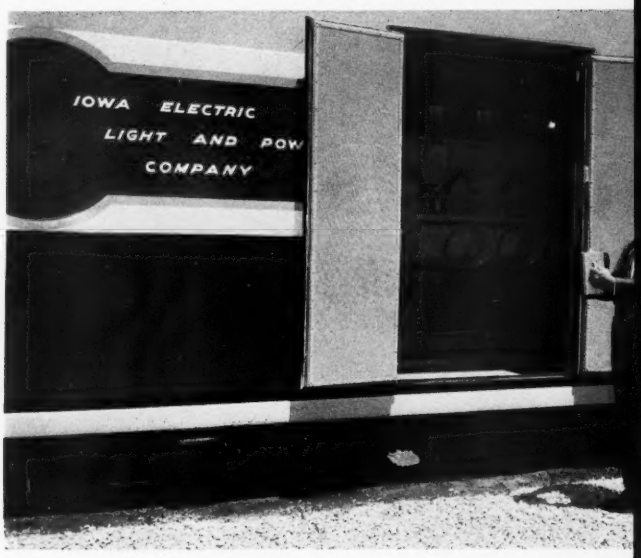
Uniform Rates. A proposal to establish uniform rates for two adjacent telephone exchanges upon conversion of one to dial service was considered reasonable by the Wisconsin commission where both served a comparable area and the subscribers in each area were similar in their use of the service. *Re Boulder Junction Teleph. Co. 2-U-5363, July 8, 1960.*

Salary Expense Disallowed. For ratemaking purposes, the Montana commission allowed only $7,750 of a $10,200 salary paid to the president and general manager of a telephone company serving about 400 subscribers. *Re Madison Valley Teleph. Co. Docket No. 4903, Order No. 2833, June 22, 1960.*

Telephone Rate Increase Denied. The Wisconsin commission denied a rate increase requested by a small telephone company where it appeared, upon appropriate adjustment of expenses and revenues, that the company was earning a rate of return of 6.56 per cent on a net investment rate base. *Re Viroqua Teleph. Co. 2-U-5373, July 7, 1960.*

Unneeded Authority Denied. The North Dakota commission denied an application for motor carrier authority to transport salt since existing service was reasonably adequate and the proposed service would have a deleterious effect on existing carriers. *Re Fischer, Case No. S-1526, July 18, 1960.*

"Why make a big thing out of a 2000 KW plant?"



Remarks made by Sutherland Dows, President, Iowa Electric Light & Power Company, at plant dedication, Ames, Iowa.

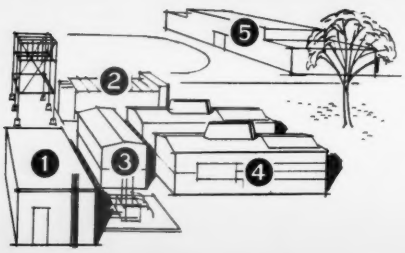
"Today we are dedicating this 2000 KW Electro-Motive peaking and stand-by plant to serve the new National Animal Disease Laboratory here at Ames. Surely the addition of this Electro-Motive unit is not a very big item in a system of our size. So . . . why make a big thing out of a 2000 KW plant?

"The reason it is receiving such attention is because of the unusual circumstances which prompted its design and installation, and the unusual type of service it will render under very special circumstances. Many things are being done here for the first time.

"Due to the type of experimentation to be carried on in this new animal disease laboratory, the facility had to be *guaranteed a practically continuous supply of electricity*. Although we have a multiple source feed at this point, no one can guarantee the uninterrupted operation of transmission lines in the kind of weather that Iowa occasionally gives us.

"We have operated two Electro-Motive peaking plants at Guthrie Center for the last four years. And, their proven efficiency and reliability for our kind of peaking service convinced us that a new Electro-Motive dual-fuel plant was the answer to our problem here at Ames. So, we have located this new plant here at the laboratory where it is available for system peaking and for almost instantaneous service in the case of line outage."

This Advertisement Explains How
Electro-Motive serves Iowa Electric Light and Power



1. Utility fuel and auxiliary control house for laboratory
2. Transformer
3. Peaking plant control component
4. Peaking plant generators
5. Animal Disease Laboratory

This Electro-Motive plant supplies both peaking and stand-by power

Iowa Electric Light and Power's new installation demonstrates the remarkable flexibility of the Electro-Motive dual-fuel plant . . . a standard unit designed to meet a wide range of utility operating conditions.

The unit fulfills unusually stringent requirements of automatic area protection . . . it also operates as a remote-control peaking plant . . . it qualifies as system reserve and as generation credit in the area pool.

Here are some of the details of this installation:

Automatic Dead Load Pick Up

The 2000 KW capacity of the Electro-Motive plant is adequate to provide the non-interruptable power requirements of the laboratory. In addition, provision for automatic dead load pick up is provided through a unique automatic control system. Although the new animal disease laboratory is served by two separate transmission lines, the Electro-Motive plant is designed to provide additional power supply protection under any of these contingencies: (1) If a line outage occurs and attempts to reclose it fail, an automatic signal starts the Electro-Motive plant and brings it up to full speed, no load; (2) Should simultaneous attempts to tie in the second transmission line fail, another automatic signal puts the plant on load; (3) If either transmission line holds, the Electro-Motive plant shuts down automatically after a three-minute running period; (4) If an outage occurs during peaking service, the plant automatically drops out and follows the automatic sequence for dead load pick up.

When either line is restored, the plant automatically resynchronizes with the utility system and is ready for peaking.

Remote Control Operation

The Electro-Motive plant will normally supply 2000 KW peaking power five days a week. In this task, the plant is operated by remote control from Boone, Iowa, 20 miles distant. On signal, the unattended plant starts, synchronizes and goes on line in less than two minutes. Operation from start to stop is completely automatic.

Dual-fuel Operation

Dual-fuel operation was selected for this application because of the relatively long daily peaking periods. The dual-fuel modification of the standard Electro-Motive Diesel plant adds to the initial investment cost. But, because of its low heat rate (11,500 BTU/KWH), it can provide the total KWH required for this installation at *a lower cost* per KWH than can be achieved with any other type of peaking equipment.

In case of low gas pressure, or loss of pressure, the plant automatically switches to Diesel fuel and back again when pressure is restored.

Adaptable to Many Functions

The inherent design characteristics of Electro-Motive equipment make it ideally suited for many of your system peaking and reserve requirements. Electro-Motive plants provide:

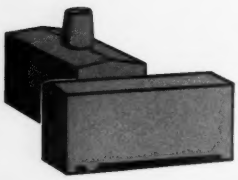
- fast start for spinning reserve
- high starting torque for dead load pick up
- unattended operation for remote peaking service
- portability for simple installation
- freedom from damage to components caused by rapid thermal changes occurring from start to full load.

See additional details on this versatile peaking plant on the reverse side of this page.

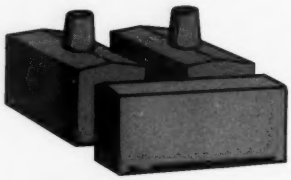
Electro-Motive peaking plants now available in capacities up to 10,000 KW

The Electro-Motive peaking equipment line contains both Diesel and dual-fuel plants in a range of sizes which permit matching the plant to exact requirements for the most economical and efficient operation at the lowest investment. When load growth occurs, additional generating units may be added at low incremental cost to bring the plant up to desired size.

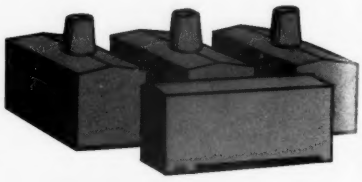
The reliability of Electro-Motive peaking units results from many years of operating experience with the 25,000 GM-567 Diesel engines now in service. This engine is the heart of the peaking plant. Control equipment for the peaking unit has evolved over a period of six years through more than 100 prototype plants. And, behind this proven, reliable plant, Electro-Motive stands as a single-source manufacturer with single-source responsibility for your peaking power requirements. Ask your Electro-Motive representative for complete details.



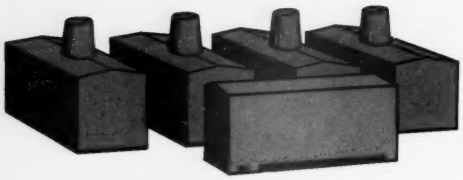
MU-20 2000 KW Diesel
MU-14DF 1000 KW Dual-fuel



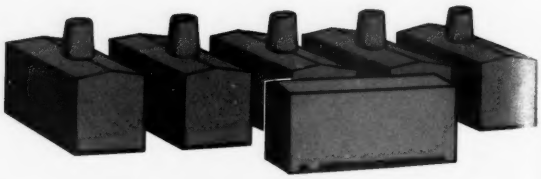
MU-40 4000 KW Diesel
MU-28DF 2000 KW Dual-fuel



MU-60 6000 KW Diesel
MU-42DF 3000 KW Dual-fuel



MU-80 8000 KW Diesel
MU-56DF 4000 KW Dual-fuel



MU-100 10,000 KW Diesel
MU-70DF 5000 KW Dual-fuel

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS La Grange, Illinois

Sales-engineering offices: Chicago, New York, St. Louis, San Francisco

In Canada: General Motors Diesel Limited, London, Ontario

INDUSTRIAL PROGRESS

ome Plain Talk About Automation r Electric Utilities

BY
CHALMER E. JONES
VICE PRESIDENT AND GENERAL MANAGER
Control Products Division
Daystrom, Incorporated

ELECTRIC utilities of the country have taken a clear lead among American industries in the application of industrial electronic digital computers to their production of electricity.

Right now, three firms are using general-purpose electronic digital computers for data collection and for on-line computations in four steam generating plants. They include the Louisiana Power and Light Company's installation at Sterlington, Louisiana; the Carolina Power and Light Company's at Hartsville, South Carolina; one Gulf States Utilities Company's station at St. Gabriel, Louisiana, and a second at a Lake Charles, Louisiana, plant. At least 12 other companies are either constructing similar systems or are ready to sign contracts for them.

By the end of the year, two stations—the Louisiana Power and Light Company's Little Gypsy station at La Place, Louisiana, and the Southern California Edison's at Huntington Beach, California, will be computer-controlled. Moreover, the Louisiana utility has added control outputs to the Sterlington station computer to handle control of several sub-loops that were previously controlled manually.

By the end of the year, too, Duquesne Light's Shippingport station, the nation's first station generating electricity commercially by atomic energy, will be monitored by a computer.

In the light of this activity, some people ask:

Why do utilities show such interest in electronics at this time?

The answer is two-fold:

FIRST—This interest is in no ise a su den one. It is, in fact, based n exten ve engineering studies and xperien both of which underscore e fact that electronic techniques rovide s veral advantages not to be alized by methods, human and anual.

Auton ation Part of Electric Util ies Expansion Plans

For o e thing, many electric utilies, especially those with high fuel ost, hav accepted the fact that comuter co rol systems, especially for canning, data logging and computaon, will be included in future expanions. Ec nomic justification has been roved, although on an intangible basis in some cases, by reduced fuel costs, increased safety of people and equipment, less outage time of control equipment and less maintenance because of monitored start-up procedures and continued surveillance during normal operation.

Moreover, by constant monitoring of the entire generation process, it is possible to achieve more effective protection against costly damage to equipment, obtain the maximum in high quality work from manpower by eliminating drudgery and routine and provide essential operating data while it can still be used to economic advantage in terms of increased fuel efficiency.

Second—With transistors replacing electronic tubes and with virtual elimination of moving parts, there is little to get out of order. In a six-month test run, the Sterlington plant's computer was in service more than 99.75 per cent of the time around the clock. So, Management can depend upon the constant surveillance provided by the new electronic systems.

We think that automation will be designed into most new plants, because savings can be predicted when new installations are engineered from their inception with a control system in mind.

Older Plants Can Benefit, Also

The older plants' biggest problem in remaining economically competitive

today is the cost of their down time, due to shut down or start up of operations. These are the two periods when most damage to equipment is wrought. So, Automation's major savings to such plants will be in reducing down time to a minimum.

The start-up and shut-down sequences have to be programmed into the computer so as to reflect proper operating procedures. This program, broadly speaking, must include:

(1) the intelligence to know when a particular operation has been completed;

(2) the intelligence to know what to do or not to do when a certain step or steps cannot be completed, and

(3) the intelligence to decide if a unit should be shut down and, if so, on what schedule.

In addition, the computer must be capable of communicating with the human operator to notify him of trouble and of trouble's location. Savings in operations can also be achieved by a computer. Once the plant is runni increased combustion efficiency realized through maintaining optim burning conditions in the boiler operating conditions throughout rest of the plant.

Here, supervision of operation fers from start up supervision in the computer system is actually m itoring the operation of the sub-lo and taking over control if necessa

A Word About Optimizing

Optimizing, while it has a differ connotation, is included in the sup vision of operation because optimiz adjustments will be made by mani lating certain pieces of equipment t are being monitored.

The supervision of sub-loop equ ment is important because such sup vision signals trouble before ala limits are reached. This will red costly shutdowns by warning the erator or triggering an alternate s tem in time to take corrective acti It is no exaggeration to say that c ualties could be drastically reduced the close monitoring that a compu system would provide.

How far should optimization computer control go? There is a pr tical limit for each installation.

Optimization presents a compl set of ideas, problems and possi philosophies. There are several sim optimizing functions that can be ha dled fairly easily by a computer sy tem, particularly when considered se arately. Examples of these are:

(1) fuel air ratio control based boiler load,

(2) unit over-pressure operati for peak loads and

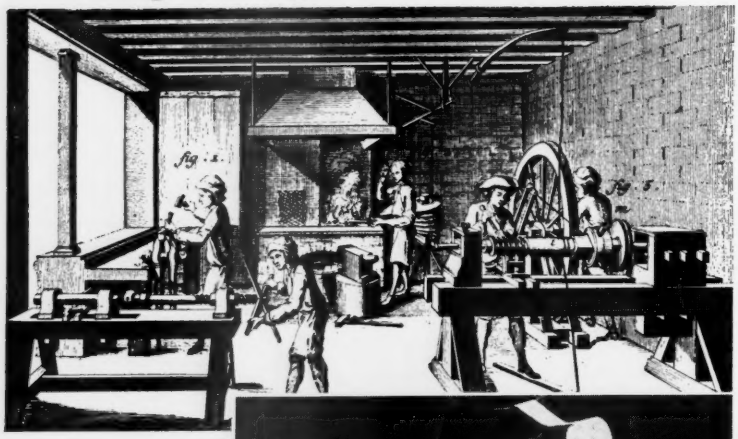
(3) reheat and superheat temper ture adjustments.

If we consider these three togeth for best conditions, then the optimiz tion program gets complicated b cause of the interaction of the fun tions (e.g., fuel-air ratio affects supe heat temperature and reheat temper ture, over-pressure affects both te peratures and manipulation of any these variables affect unit stability.)

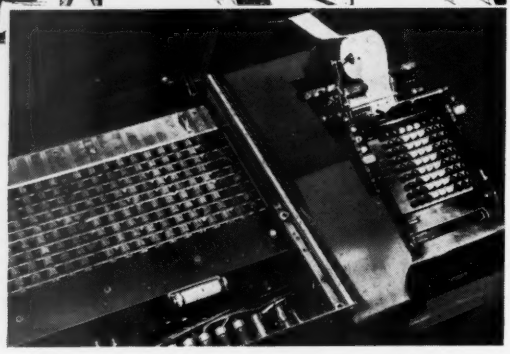
If a unit were to be designed for t ultimate in optimization, we wou have to include in our consideratio

(1) Unit stability (load and lo factor)
(2) fuel-air ratio
(3) operating pressure
(4) steam temperatures
(5) spray water control
(6) heater performance and dra operation

many steps vs. "ONE"



In this early machine shop screw patterns were first traced by hand, then threads cut by machines which are primitive by present day standards.



This *exclusive* R & S service is made possible by this machine of our invention

While present day office machines are far from "primitive", their use in compiling rate bill analyses is un-economic and slow compared to our "One-Step" Method.

Tracing the pattern of consumption with our monthly rate-bill analyses, puts *all* the threads for accurate future planning in the hands of rate engineers. Besides, this always up-to-date monthly data is invaluable in preparing and presenting rate cases.

Switching over to the "One-Step" Method can be accomplished as simply as running an adding machine tape. Full details are in our booklet, *"One-Step" Method of Bill Analyses.*

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(7) condenser performance and cooling water conditions
(8) ambient air temperature and air cooler performance
(9) pumping cost and pipe losses
(10) fuel supply and fuel contractual agreements.

Some Other Angles to Efficiency

There are other variables that can affect optimum operation just from an efficiency standpoint—but this is not the end. Unit load and load predictions are important. A computer can't cut out a feed pump at 50 per cent load for pumping cost savings and then have the load go right back up to where the pump was needed. There are literally dozens of examples of such decisions that could be classed under "optimizing."

In addition to this, there are two methods of optimization. A balance between the two of these has to be reached. One method would be "dynamic optimizing"—dynamic since it depends upon the unit load or rate of change in load. Part of this optimization routine is preprogrammed—part built up from history of operating conditions and changes.

The second method, for lack of a better word, can be called "tweaking" or "adaptive control." Here, the computer would make incremental changes based on calculations and evaluate these changes. It is a "try and see" routine but can be used to build up a history. This is normally done during steady load operation.

Rebuild for Automation?

We are often asked whether an old plant should be rebuilt specifically for automation or whether it should be updated by more accurately controlling instrumentation.

That's a question that each utility will have to answer by itself, preferably after a joint study by its own engineers or consultants in conjunction with a system's manufacturer's study team.

Electronics Versus Manual Operation

The reasons behind the advantages of the electronic computer system become apparent immediately when one compares the techniques of doing essential jobs electronically and in the conventional manner.

In most plants, hundreds of points require frequent monitoring and operators usually perform this task once an hour. The Louisiana Power and Light Company's Sterlington computer scans and operates on more than 300 points every minute, eliminating inaccuracies due to the human element.

Actually it's possible for a computer to scan 700 points in one minute—far beyond the capacity of a human being or any combination of human beings. Moreover, it's never late; it's never groggy; it never takes time out for a coke.

In conventional plants, operators hand-log their readings of temperatures, pressures and other indicators. The computer logs this information automatically, completely and instantly.

Conventional Record Evaluation Takes Too Long

Once a day, operators of a conventional plant collect their records and turn them over to the plant's efficiency engineers for computation and evaluation. These calculations take so much time that days often elapse before results are determined—before Management knows how efficiently or inefficiently the plant is operating. This obviously brings results to light too late to correct malfunctions.

On the other hand, with a computer system, calculations can be called up on an operator's demand. This provides immediate information on the performance of a piece of equipment or sub-system which is very important when making operating changes that could affect efficiency or performance of the plant or an individual piece of equipment. It allows the operator to make adjustments to equipment and operating variables for the best possible performance under exactly existing conditions.

The Louisiana Power and Light Company, for example, reports that its Sterlington information system detected an open valve that might have gone undetected for months. It estimates its savings through more efficient operation in the last 18 months at $100,000. On the basis of experience, it anticipates a further eventual saving of at least one-half per cent in fuel and efficiency.

We are frequently asked what it costs to equip a plant with a computer information system. A reasonable estimate of this cost is $1.30 to $1.80 per kilowatt, installed, for one 200 Megawatt unit. But if two units are so equipped, simultaneously, the second unit can be provided for an additional twenty to twenty-five cents a kilowatt.

Gas Industry First In 1964 World's Fair

THE gas industry has become a member of the charter group of U. S. enterprises to participate in the 1964-65 New York World's Fair.

Chester S. Stackpole, managing director of the American Gas Association, and Harold Massey, managing director of the Gas Appliance Manufacturers Association, jointly announced formation of Gas, Incorporated, which will plan and direct all activities related to the creation and operation of a gas industry building on the Fair grounds.

Officers elected by the corporation include John E. Heyke, president of the Brooklyn Union Gas Company, as president; William G. Hamilton, Jr.; president of the American Meter Co., Inc., vice president; James Comerford, chairman of the board of Consolidated Natural Gas Company, treasurer; and Stanley B. Finch, coordinator for the gas industry in the 1939 World's Fair, executive secretary.

The two-acre gas industry exhibit, the statement said, is expected to dominate the Fair grounds as it did in the 1939 Fair at the Flushing Meadow site. Gas industry leaders estimate that the cost of planning, constructing and operating the building will total $5,500,000, most of which is expected to come from gas utility contributions.

Arrangements soon will be worked out for exhibits by all factors in the gas industry, including producers, transmitters and distributors of utility gas and manufacturers of household, commercial and industrial gas equipment and accessories.

Gas is the only complete industry represented in the charter Fair group, the others being individual companies, the Stackpole-Massey announcement said.

The industry's concept of a Fair exhibit is expected to revolve around a visual recording of a "century of gas progress." This progress, Stackpole and Massey said, has brought gas to the point where it now serves more than 40,000,000 homes, does more than 25,000 different kinds of industrial jobs and plays a major part in the operation of hundreds of thou-

(*Continued on page* 26)

sands of commercial establishments, public institutions and military installations.

The exhibit, however, "will not confine itself to the industry's past, but will also define its place in the space age, in which it already figures prominently," their statement added.

In addition to Stackpole, Massey and the officers of Gas, Inc., the following are members of the board:

Marvin Chandler, president, Northern Illinois Gas Company; C. V. Coons, executive vice preident, Rheem Manufacturing Company; Wendell C. Davis, president, Cribben and Sexton Company; Joseph J. Decker, president, American-Standard, Plumbing & Heating Division; Frederick O. Hess, president, Selas Corporation of America; T. H. Kendall, president, South Jersey Gas Company; Julius Klein, president, Caloric Appliance Corp.; Wister H. Ligon, president, Nashville Gas Company; Charlton H. Lyons, Sr., Lyons and Logan; E. Clyde McGraw, president, Transcontinental Gas Pipe Line Corp.; Ralph T. McElvenny, president, Michigan Consolidated Gas Co.; Robert T. Person, president, Public Service Company of Colorado; and L. T. Potter, president, Lone Star Gas Company.

Peak Demands of Nation's Electric Utility Systems to Reach 380 Million Kw's by 1980, FPC Estimates

PEAK demands of electric utility systems in the United States will rise to 380 million kilowatts by 1980 and approximately 437 million kilowatts of installed generating capacity will be needed to supply these requirements, according to new forecasts made by the staff of the Federal Power Commission.

In addition, the FPC staff estimates that non-utility generating capacity, primarily in industrial plants, will total 30 million kilowatts. Thus, total generating capacity will be about 467 million kilowatts in 1980 compared with 174 million at the end of 1959.

The new forecasts were made as part of the Commission's continuing appraisal of electric load growth and generating capacity additions, and were released recently as one of a series of periodic reports. The last report, issued June 17, 1959, predicted a total capacity in 1980 of 451 million kilowatts, or 16 million kilowatts less than the estimate contained in today's report.

The staff said the revision of the 1980 capacity estimate resulted primarily from an increase of about 6 million kilowatts in the estimated peak in Region I, the Northeast, and a gain of about 4 million kilowatts in Region V, in the Southwest.

The staff said that future demands in Region I, already highly industrialized and not expected to grow as rapidly percentagewise as some of the less mature areas, will be affected by a number of favorable developments—including construction of the St. Lawrence and Niagara Falls hydroelectric power projects. The upward revision in Region V was made because that area has in recent years been experiencing a substantial and sustained growth in electric power requirements.

The staff also pointed out that on a regional basis the percentage growth can be quite variable from year to year, as shown by the fact that the nation's overall electric energy consumption does not follow a uniform pattern of growth. The staff cited the marked variations in annual growth rates during the past decade, in which energy requirements increased from 334 billion kilowatt-hours in 1950 to 716 billion in 1959. Actual percentage increases from year to year, starting in 1951 and continuing consecutively to 1959 were: 13; 8; 10; 7; 16; 9; 5; 2; and 10. These swings in rate of growth are one of the main reasons for the periodic revision of forecasts, the staff indicated.

In forecasting the generating capacity needed to supply future electric loads, the staff has added a reserve allowance of 15 percent to the expected peak loads. One of the most complex problems, the staff said, is that of allocating future capacity among the types of prime mover. In the new estimates, 1980 hydroelectric capacity has been revised upward from about 58 million kilowatts in the June 1959 report to nearly 69 million in the new report. The revision was based upon a more recent FPC study which disclosed increased interest in construction of hydroelectric power projects by both private and public utilities.

Estimates of future internal combustion capacity were lowered somewhat. Internal combustion plants represent only a small portion of the total supply. The greatest portion of supply is now provided by steam-electric plants and the staff predicts further increases. The 1980 estimate of steam-electric capacity was raised by today's report from 382 milli kilowatts to 390 milion. Nuclear pla fall within the steam-electric catego but the report does not forecast 1980 capacity because of the ma uncertainties involved at this stage development of the industry.

Rolston Joins Commonwealth Associates, Inc.

JOHN N. ROLSTON has be named business developme rep sentative for consulting an desi engineering services by Comm wealth Associates, Inc. He will ma his headquarters in Commonwealt Jackson, Michigan, office, according to J. R. North, president. Comm wealth Associates is the professio engineering affiliate of Comm wealth Services, international ma agement consulting firm.

Mr. Rolston was formerly v president in charge of the Chica office of United Engineers and Co structors, Inc., and prior to that, w account manager in the field of co sulting management engineering f Booz, Allen & Hamilton.

Nuclear Reactor 'Goes Critic At Yankee Atomic Power Plan

THE nuclear reactor for the natio latest atomic power plant went cr ical at Rowe, Mass., on August 19 The Yankee Atomic Electric Co pany's plant there is the first nucle powered electric generating station New England and will begin produ ing power this fall for the 10 utilit which jointly own the facility.

Charles H. Weaver, vice preside —atomic power products for We inghouse, explained that the Yank reactor is the latest advance in t development of water cooled a moderated nuclear reactors. Critic ity represents an important mileste in the three-year construction pr gram of the 136-megowatt atom electric generating station, he sa The reactor is the largest yet design and developed by Westinghouse El tric Corporation.

Westinghouse and Stone and We ster Engineering Corporation ha been jointly responsible for the eng neering design of the plant. Westin house developed the nuclear stea generator and is also supplying t turbine-generator and other electri apparatus. Stone and Webster ha dled the over-all design, layout a construction of the plant.

urns and Roe to Install New olid State Data-Processing System

IENTIFIC problems involved in e of the nation's leading space nuclear projects will be solved h the aid of a compact new elec- ic computer at Burns and Roe, The New York City firm of sulting engineers and construc- s reported recently it has ordered a nsistorized IBM 1620 data proc- ing system as part of a continuing gram to expand and improve en- eering services.

Typical of the jobs on which the k-sized, solid-state computer will rk are development of the produc- n atomic reactor at Hanford, sh., and the Project Mercury n-in-space program. In these and er defense, power and general in- stry projects in which Burns and e plays a leading role, the system ers two major advantages: (1) it ll produce substantial savings in culation time, and (2) it will allow re complex engineering analyses an are feasible manually.

"We expect to speed solution of ch difficult calculations as shield ckness for atomic reactor design, clear physics problems, power ant heat balances, as well as distri- tion and control of electric gen- ation station output," predicts Dr. Baron, Burns and Roe's chief emical and nuclear engineer, who ll direct the data-processing opera- ns. "Other typical problems we y solve on the computer include rmissible deviation for radar in- allations, free-form structural com- utations, and stress analyses on steel ilding framework."

Burns and Roe's decision to ac- ire additional data - processing uipment was prompted by the wide riety of complex defense and elec- ic power projects being handled by e firm.

Kuljian Designs New Steam Power Plant for Okinawa

CONTRACT award for the design d engineering of an 88,000 KW eam power plant to meet the need r increased electrical supply on kinawa in the Ryukyu Islands, has en made to The Kuljian Corpora- on, Philadelphia engineers, by the orps of Engineers, U. S. Army En- neer District, Okinawa.

The new thermo-electric plant, to- ether with transmission lines which will tie in with and supplement the existing electric power system on Okinawa, will cost approximately $20,000,000. The plant, a totally enclosed concrete structure, will be designed to sustain both earthquake shock and typhoon conditions.

The Kuljian Corporation's Power Division is currently undertaking generating plant projects in the United States and abroad totaling more than 1,750,000 KW. Total constructed costs of these current projects are approximately $225,000,000.

New Atlantic City Plant to be Named for B. L. England

"B. L. ENGLAND Generating Station" has been selected as the name of Atlantic City Electric Company's new power plant at Beesley's Point, New Jersey.

The Board of Directors at its August meeting officially named the $27 million plant now under construction after the company's board chairman, Bayard L. England.

The new plant is scheduled for completion in late 1962. It will be constructed on 350 acres of land with approximately 5,000 feet frontage on the Great Egg Harbor River in Upper Township and will have a name plate capacity of 125,000 kilowatts. However, the capacity is expected to reach 136,000 kilowatts during peak operation.

Public Service Electric & Gas to Spend $145,000,000 in 1960

AS of June 30, 1960, the estimated cost of the current construction program of the Public Service Electric and Gas Company, Newark, New Jersey, based upon recent prices, amounted to approximately $220,000,000 of which $201,000,000 was for electric facilities and $19,000,000 was for gas facilities.

While the current construction program will require large expenditures for electric transmission and distribution facilities and gas distribution plant, the larger portions are for the completion of the new Mercer generating station and related facilities and the installation of an additional turbine-generator and related facilities at Sewaren Generating Station. The Mercer Generating Station will have two turbine-generator units of 320,000 kilowatt capacity each, the first of which is scheduled for service in December 1960, and the second in May 1961. The unit being added at Sewaren Generating Station will have a capacity of 342,000 kilowatts and is expected to be available for service in 1962.

It is estimated that construction expenditures in 1960 will approximate $145,000,000 and in 1961 will be between $140,000,000 and $150,000,000.

Lawrence to Head EEI Sales Activities

CLAUDE D. LAWRENCE, vice president in charge of sales for the New England Power Service Company, Boston, Mass., has been appointed chairman of the Sales Division Executive Committee of Edison Electric Institute for 1960-1961, it has been announced by Sherman R. Knapp, president of EEI and president of The Connecticut Light & Power Co., Berlin, Connecticut.

Mr. Lawrence will preside over the 56-member committee which will direct the activities of the other 18 committees of the Sales Division during the coming year. These committees, served by more than 300 sales executives representing the nation's 196 investor-owned electric utilities, have been organized to help promote the use of electricity in the commercial, farm, industrial and residential markets.

G-E Appointment

HARRISON T. TODD has been appointed Manager-Generation and Auxiliaries Sales in General Electric's newly-created Electric Utility Sales Operation.

Mr. Todd has been Manager-Electric Utility Sales in the Electric Utility Commercial Section of the Apparatus Sales Division.

In announcing the appointment, John R. Casey, Manager-Generation, Transmission and Auxiliaries Sales, said Mr. Todd will direct operations to better serve customers in the electric utility industry.

William E. Scott Named Vice President of Irving Trust

IRVING Trust Company announces the promotion of William E. Scott from assistant vice president to vice president.

Mr. Scott is with the bank's Public Utility Department and assists in the supervision of its business throughout the country. He has been associated with Irving Trust Company since 1945.

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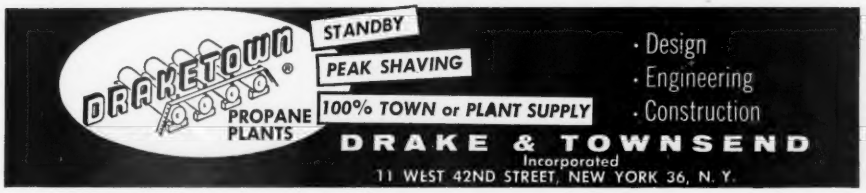

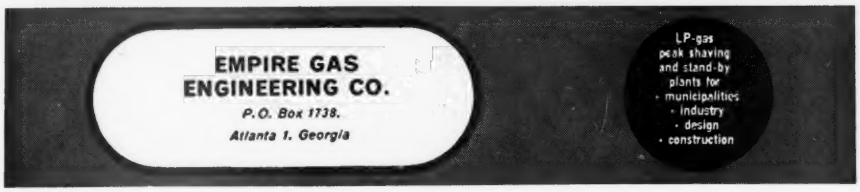

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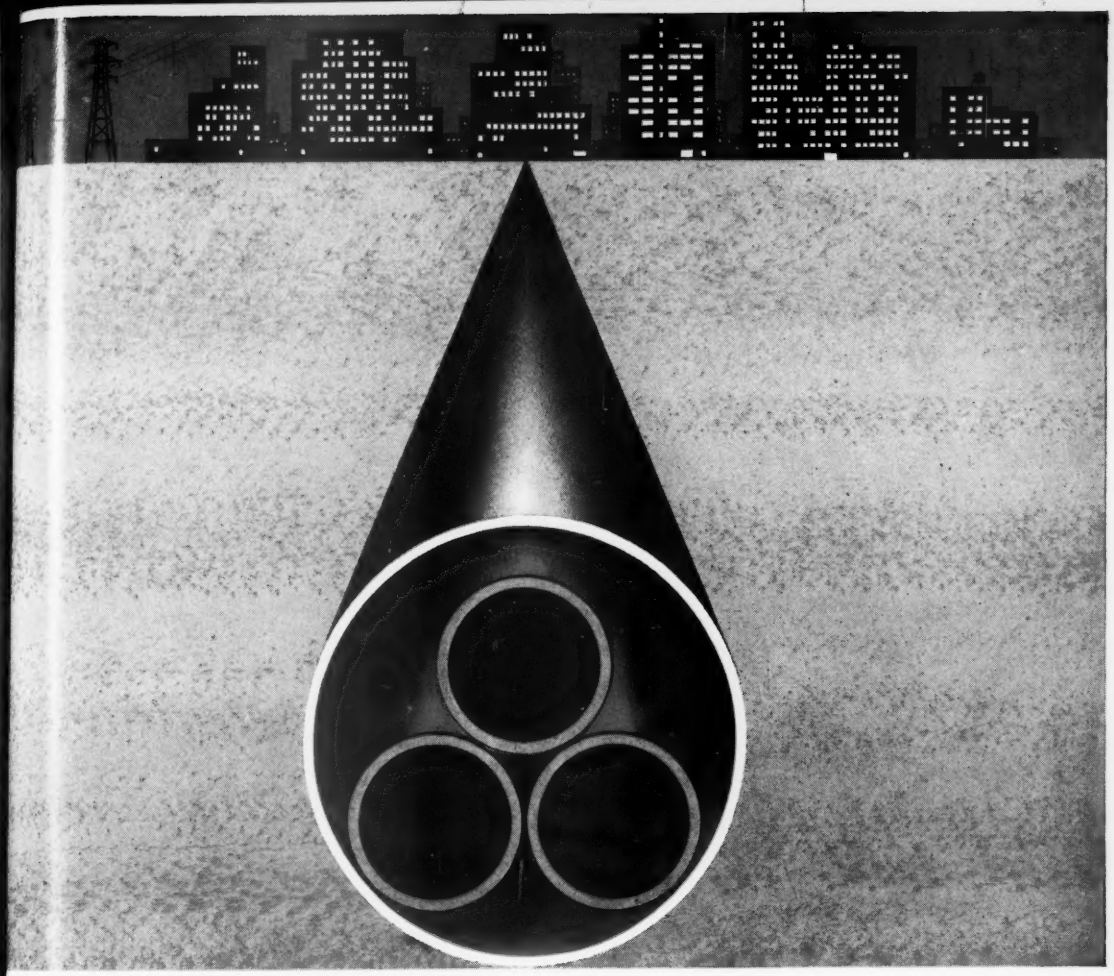

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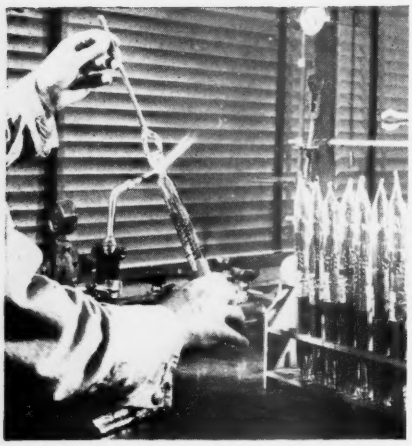

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